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TANGANYIKA TERRITORY





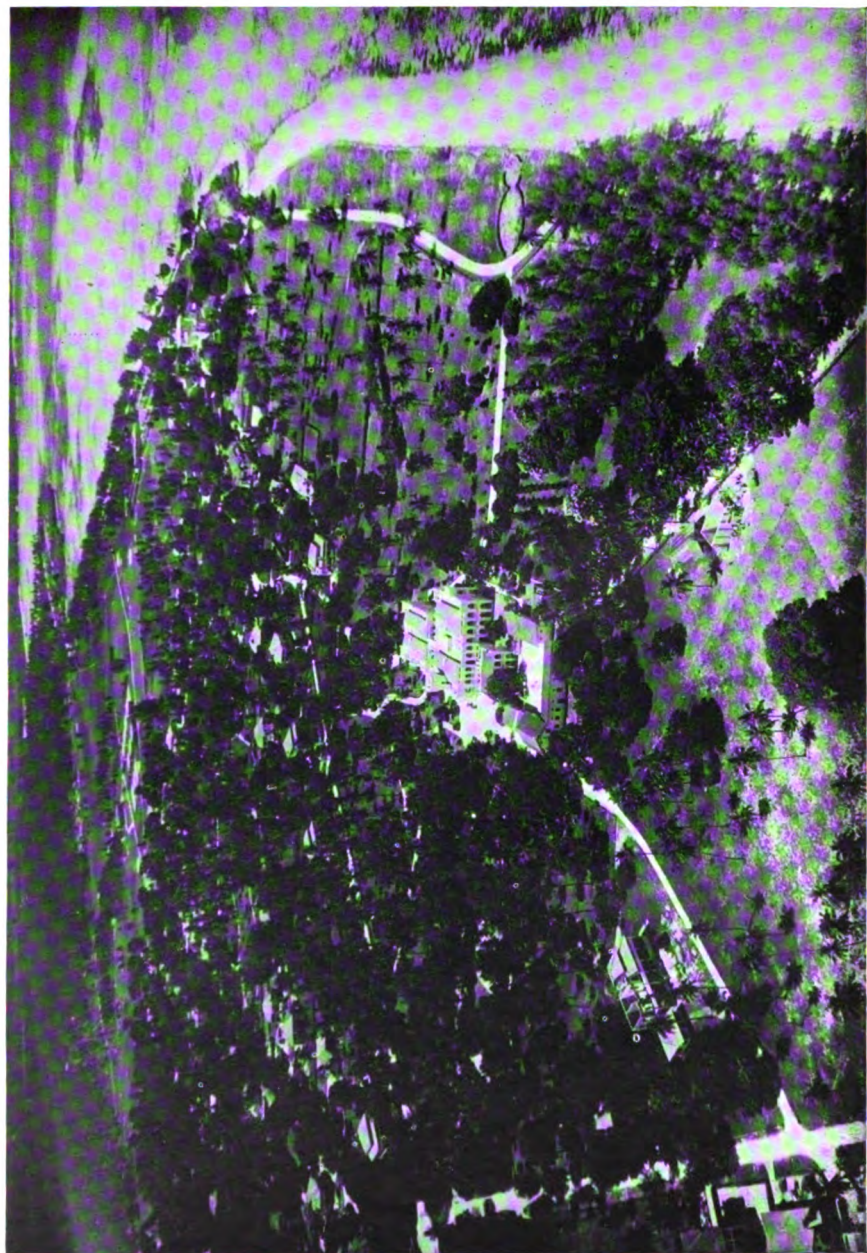
**THE HANDBOOK
OF TANGANYIKA**



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AZANIA FRONT AND GOVERNMENT HOUSE, DAR ES SALAAM, FROM THE AIR

THE HANDBOOK OF TANGANYIKA

FIRST ISSUE

1930

Issued by the Chief Secretary's Office

GENERAL EDITOR

GERALD F. SAYERS

(AN ASSISTANT SECRETARY IN THE CHIEF SECRETARY'S OFFICE)

This Handbook, though in part compiled from
Official Records, is not an Official Publication.

Printed by the Government Printer, Dar es Salaam.

MACMILLAN AND CO., LIMITED
ST. MARTIN'S STREET, LONDON

1930

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BY R. & B. CLARK, LIMITED, EDINBURGH

PREFATORY NOTE

EVER since I arrived in the Territory, I have been impressed by the crying need for a Handbook of Tanganyika which would serve not only to bring the resources and attractions of the largest country administered by the Colonial Office to the notice of the public in the British Isles, but would also serve as an indispensable work of reference to all who work in and for Tanganyika.

I have now been able to arrange for the preparation of this Handbook in my office; and I have been particularly fortunate in having the services of Mr. G. F. Sayers as the first General Editor. There are two points, however, which I wish to emphasize. In the first place, although the Handbook is compiled from official records and is the property of the Government, the book is not to be regarded as an official publication, and the Government assumes no responsibility for any statement made or opinions expressed. Secondly, this is only a first issue of a publication which, I hope, will be reissued from my office every two or three years. Consequently I shall be very grateful for any suggestions for improvements for future editions, from whatever source they may come. Such suggestions should be addressed to the Chief Secretary to the Government, Dar es Salaam, Tanganyika Territory.

The grateful thanks of the Tanganyika Government are due to the *Encyclopaedia Britannica* for permission to reproduce the article on the campaign in East Africa which appears in the thirteenth edition of the *Encyclopaedia* and which is

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D. J. JARDINE,
Chief Secretary to the Government.

LONDON,
5th June, 1930.

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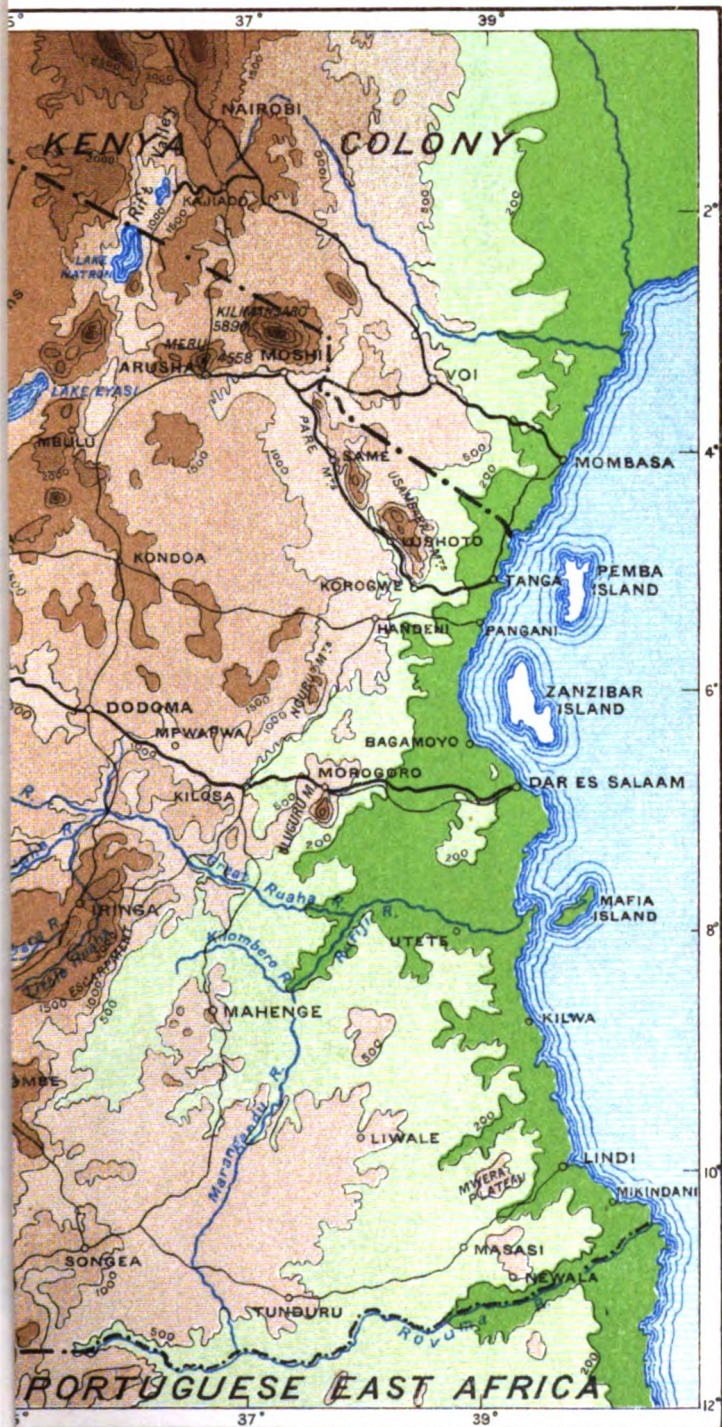
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CHAPTER I

GEOGRAPHICAL AND GEOLOGICAL

THE Tanganyika Territory is, roughly speaking, a block of Africa between the great lakes of the continent and its eastern side washed by the Indian Ocean. The total area is about 365,000 square miles, and Tanganyika is the largest country under the administration of the Colonial Office. The Territory comprises that portion of the former Colony of German East Africa which, under Article 22, Part I., of the Treaty of Peace with Germany, the principal Allied and Associated Powers agreed should be administered under a mandate by His Britannic Majesty. It was originally intended to hand over German East Africa in its entirety to Great Britain, but the Belgians, who had taken a share in the campaign, and, advancing from the Congo, had captured and occupied Kigoma and Tabora, put forward claims to a portion of the Territory. To Belgium, therefore, were handed over the thickly populated and fertile districts of Ruanda and Urundi in the extreme north-west of the Territory, comprising a little more than twenty thousand square miles.

The Territory extends from the Umba River on the north to the Rovuma River on the south, the coast-line being about five hundred miles in length, and includes the adjacent islands. The northern boundary runs approximately north-west to Lake Nyanza at the intersection of the first parallel of southern latitude with the eastern shore (Mohuru Point). The boundary on the west starts at a point where the frontier between the Uganda Protectorate and ex-German East Africa cuts the River Mavumba, and follows roughly the eastern boundary of the former districts of Ruanda and Urundi to

Lake Tanganyika. The western boundary then follows the middle of Lake Tanganyika to its southern end at Kasanga, whence it goes south-east to the northern end of Lake Nyasa. Rather less than half-way down the lake the boundary turns east and joins the Rovuma River, whose course it follows to the sea.

The adjoining territories are those of the Kenya Colony and Protectorate and the Uganda Protectorate on the north, the Belgian mandated territory of Ruanda-Urundi on the north-west, the Belgian Congo on the western shore of Lake Tanganyika, Northern Rhodesia and the Nyasaland Protectorate on the south-west, and Portuguese East Africa on the south.

Three large islands lie off the coast, viz. Pemba and Zanzibar, which form the British Protectorate of Zanzibar, and further south, Mafia, with an area of about two hundred square miles, which is now part of Tanganyika, though after its occupation by the British during the campaign it was administered by the Government of Zanzibar for a time.

Mountains
and
mountain
ranges.

Kilimanjaro, an extinct volcano, is the highest mountain in Africa, rising in the form of a volcanic cone to 19,321 feet above the plateau of 3,000 feet. It is about two hundred miles inland from the coast. It was seen in 1848 for the first time by a European in the person of Johannes Rebmann, a German missionary, who journeyed inland from Mombasa, having heard accounts, which had been brought to Zanzibar by Arab traders a few years previously, of a snow-covered mountain in the interior. Little credence was given to Rebmann's story, and it was not until 1861, when Baron Karl von der Decken visited the mountain, that Rebmann's account of it was confirmed. The snow-line was reached for the first time in 1867 by Charles New, while the summit was first conquered in 1889 by Dr. Hans Meyer, who made four expeditions to the mountain. Since that time the summit has been reached by many ardent climbers. The mountain, which in appearance resembles a white snow-capped haycock, has two principal peaks, Kibo to the west and Mawenzi to the east. The former, which is the higher, is a truncated cone with a nearly perfect extinct crater of a comparatively recent period of volcanic



1st photo by Major A. E. Perkins, F.R.G.S. (Copyright)

MOUNT KIBO (KILIMANJARO) FROM MOSHI

activity. The lava-slopes towards the summit are covered with an ice-cap and glaciers, and from the crater rim there is a precipitous depression of some six hundred feet towards the interior of the crater. Mawenzi is the very ancient cone of a former summit of which the crater walls have been removed by denudation. Unlike Kibo, it has no permanent ice-cap, but snow lies on its summit at times throughout the year. A saddle of about 14,000 feet high connects the two peaks, and the sides are furrowed by great ravines from which start the streams which feed the Pangani River. In the alpine zone, from 10,000 feet and upwards, grow the tree lobelias and giant heather and groundsel; below, there is a forest belt running down to an altitude of 6,500 feet which narrows towards the north and almost disappears towards the north-east, which is the driest part of the mountain. The slopes between 4,000 and 6,000 feet on the south side are well watered and cultivated, the special feature being the plantations of *Arabica* coffee producing the well-known brand of Kilimanjaro coffee which has fetched a record price in the market.

Mount Meru (14,995 feet), also an extinct volcano, lies west of Kilimanjaro, in the Arusha district, and towers above the Government station of Arusha, the greater steepness of its sides making it, in some respects, a more striking object than its taller neighbour, Kilimanjaro. At times of the year a sprinkling of snow covers the summit.

The Usambara and Pare Mountain Ranges traverse the Tanga and Usambara districts, being separated from the coast by a narrow strip of plain, and run almost parallel to the Kenya-Tanganyika border. The range rises to 4,000 feet in the Eastern Usambaras and to over 7,000 feet in the Western Usambaras.

The Uhuguru and Turiani Hills lie about one hundred and twenty miles from the coast, the former being a circular mountain mass in the middle of the Morogoro district, where it rises to 8,000 feet, while the Turiani Hills lie some fifty miles northwards.

The Uhehe Range in the Iringa district.

The Livingstone Mountains, which form a belt of highlands

in the south-west of the Territory, have a mean altitude of about 4,000 feet, but the highest peak rises to a height of 9,600 feet. The ridge nearest Lake Tanganyika rises to over 7,000 feet and falls almost sheer to the water. The northern end of the range is marked by an escarpment falling to the Rukwa Valley, which is commonly regarded as the southern point of the main or Great Rift Valley. This rift, or crack in the earth's surface, runs northwards across the inland plateau, at a height of 2,000 to 4,000 feet, to Lake Naivasha in Kenya Colony and beyond.

Rungwe is a volcanic mass overshadowing Tukuyu and rising to 9,850 feet. There are three freshwater lakes upon it.

The only known active volcano in Tanganyika is Ol-doinyo Lengai (God's Mountain) at the south end of Lake Natron in Masailand. This volcano was very active in 1917, and the whole of the surrounding country was strewn with lava.

Lakes. *Lake Nyanza*, the reservoir of the Nile, is the largest freshwater lake in Africa, having an area of 26,000 square miles, and a coast-line of over 2,000 miles. The lake forms part of the inter-territorial boundaries of Tanganyika, Kenya and Uganda, and the Mwanza and Bukoba Provinces of Tanganyika border the lake. The history of its discovery belongs more properly to Uganda, through which country the Nile flows after leaving the lake.

Lake Nyasa, the third largest lake in Africa, is a deep basin three hundred and sixty miles long and from fifteen to fifty miles wide. It is 1,645 feet above sea level and has a maximum depth of 386 fathoms. Apart from a small portion of the Rungwe district which runs down to the lake at its extreme northern end, the only district of Tanganyika which borders the lake is that of Songea.

Lake Rukwa is a shallow lake lying 2,650 feet above sea level in the Mbeya district of the Iringa Province and is commonly regarded as the southern point of the Great Rift Valley. It is probable that the whole of the shallow depression was once covered with water, but now it is little more than a marsh. The permanent water occupies a fraction of the whole depression, the water varying with the annual rainfall. Great

quantities of fish are found in its brackish waters and the surrounding country teems with game of all species.

Lake Tanganyika, from which the Territory derives its name, is the longest freshwater lake in the world, measuring over four hundred miles in length, with an average breadth of thirty-five miles and a total area of 12,000 square miles. It lies at an altitude of about 2,600 feet above sea level. The lake has been formed by the subsidence of a long, narrow valley and is guarded by great cliffs which in places fall sheer into the lake and are often several thousand feet high. A number of rivers and small streams descending from the surrounding highlands flow into the lake, the Malagarasi from the north-west being the largest. The lake has never been sounded systematically, but it is known to be of great depth. It is recorded that Dr. Livingstone plumbed to a depth of three hundred and twenty-six fathoms south of Ujiji, while a depth of three hundred and fifty fathoms was obtained by Victor Giraud, the French explorer, on the western shore. Great storms are often met with on the lake, the wind blowing up the deep trough from the southern end with great velocity. The explorers Burton and Speke were the first Europeans to discover the lake, which they visited from the northern end in 1858.

Lakes Eyasi, Manyara and Natron are brackish lakes containing alkaline deposits. The last-named, which is about two hundred and twenty square miles in area, is situated in north Masailand on the Kenya-Tanganyika border. It was investigated by a German geologist in 1912, as suggestions had been made by members of the Reichstag that the deposits of soda should be developed, as were those on Lake Magadi a few miles over the boundary in British territory, and that the Tanga-Moshi railway should be extended to the lake. Samples from Lake Natron, however, showed up unfavourably when analysed and compared with the soda of Lake Magadi, the Natron soda being alloyed with common salt, from which the British product was free.

Except for the dry central plateau, the country is well watered and the river system may be divided into the rivers which flow (1) to the Indian Ocean, (2) to the great lakes. The

principal rivers draining the plateau and flowing into the Indian Ocean are (from north to south) as follows :

The *Pangani* or *Ruvu River*, which rises in the snows of Kilimanjaro about one hundred and fifty miles in a direct line from the coast, carries a great volume of water to the sea. About forty-five miles from its mouth are the Great Pangani Falls, the potential source of electric power for the Tanga area.

The *Wami River*, which traverses the districts of Morogoro and Bagamoyo, flows out to the sea at Sadani, once a town of some importance.

The *Kingani River*, known in its middle and upper courses as the Ruvu, follows a tortuous course through the Morogoro, Dar es Salaam and Bagamoyo districts and enters the sea at Bagamoyo.

The *Rufiji River*, with its tributaries the *Ruaha* and the *Kilombero* or *Ulanga Rivers*, is a river system with ramifications watering the Iringa and Mahenge districts and the south of Dodoma. Its mouth forms a large delta about five hundred square miles in extent, with mangroves occupying the islands and the greater portion of the coast-line. The *Rufiji* is navigable for light draught ships and dhows for some distance, but there is a bar in front of the estuary. Some twelve miles from the sea lies the wreck of the German cruiser *Königsberg*, which took refuge in the delta soon after the outbreak of war, and which, after bombardment by British monitors, was blown up by her own torpedoes. The *Kilombero* is navigable almost throughout its whole course.

The *Matandu River*, with its tributary the *Liwale*, flows into the sea just north of Kilwa.

The *Mbemkuru*, rising some one hundred and twenty miles from the sea, forms the boundary of the Lindi and Kilwa districts throughout its course and flows into Mzungu Bay near Kiswere.

The *Lukuledi* flows into the sea at Lindi.

The *Rovuma River*, which forms the southern boundary of the Territory for nearly the whole of its course, flows into the sea through a widely branched delta. It is nearly five hundred miles long and has its source in the mountains close to Lake Nyasa.



THE HARBOUR, U



[Photo by A. Wetherell

DAR ES SALAAM

Of the rivers which feed the great lakes the more important are the *Mori*, *Mara* and *Kagera* (Nyanza), the *Malagarasi* or *Kasagwe* (Tanganyika), the *Songwe* and *Ruhuhu* (Nyasa), and the *Songwe* or *Rukwa* and the *Saisi* (Rukwa). The *Kagera*, which is four hundred miles long, forms the head-water of the Nile, and is navigable for seventy miles from its mouth.

Dar es Salaam is the capital of Tanganyika, and is an Arab Towns. name meaning "The Haven of Peace". A settlement was first established there in 1862 by Sultan Said Majid of Zanzibar, but it was abandoned on his death in 1871, and such buildings as had been completed fell into ruin and decay. It became a German garrison town in 1887 and two years later the seat of government of German East Africa. It is well laid out in broad streets and avenues, of which the main one, Acacia Avenue, is lined with the scarlet or flamboyant acacia and, at seasons of the year, is a blazing mass of colour. The residential quarter is along and in the neighbourhood of the ocean and harbour points, where, also, are the majority of the Government offices. To the west lies the commercial quarter and further beyond lies the native town with its broad streets lined with coconut palms. The harbour is almost three miles long and half a mile wide, with a depth of water at the anchorage varying from three and a half to eight fathoms. It is entered through a narrow and winding channel not more than one hundred and eighty yards wide in the fairway, with the result that steamships of over five hundred and fifty feet in length find difficulty in negotiating the turns and anchor in the outer harbour, which is protected by islands and a coral reef. In the early days of the war the Germans endeavoured to block the channel by sinking the steamship *Koenig* and the floating dock in the fairway; but the entrance was not closed but merely obstructed by these operations, and the *Koenig* was removed and the dry-dock raised in 1920 and 1921 respectively. On the sea front is Government House, an imposing residence in the Moorish style, designed by Mr. J. H. Sinclair, C.M.G., at one time British Resident in Zanzibar. It is built on the foundations of the German Government House, which was shelled and

destroyed by the British Navy in December, 1914. Dar es Salaam is the coastal terminus of the Central Railway, and the headquarters of the 6th Battalion King's African Rifles. Most of the Departments of Government have their headquarters in the town, and the offices are cool and well built. There is a large English Church and a Roman Catholic Cathedral; a fine hospital for Europeans on the front, and a native hospital in the town. There are numerous hotels, shops, garages and banks, and the principal business firms have headquarters or representatives in the town. To the north lies a large open space, in the centre of which the Gymkhana Club and golf course are situated and, also, various playing grounds. A coastal road runs northwards over the Msimbasi creek, which is now crossed by a wooden structure but will shortly be bridged by a stone bridge capable of carrying two lines of traffic. Across this creek the land rises to a height of some twenty to thirty feet, and a suburb has been planned in that neighbourhood about three miles away from the town itself. The total population of Dar es Salaam is about 25,000, of whom some 900 are Europeans, 4,500 Asiatics, and the remainder natives. The town has a pipe-borne water supply and water-borne sewage and is supplied with electricity.

Arusha, the headquarters of the Northern Province, is situated on the southern slopes of Mount Meru (14,995 feet), at an altitude of 4,416 feet. It is the terminus of the Tanga Railway and is the centre of a busy farming area. The months of January to March are warm but pleasant, the rest of the year being cool. Eggs, meat, poultry, milk and vegetables are plentiful and excellent. There is a small tennis club, a golf course on the aerodrome, and good big game shooting is obtainable in Masailand.

Bagamoyo is the chief town of the district bearing its name, and is situated on the coast forty-four miles north of Dar es Salaam, which can be reached by motor car in about two and a half hours. The town was previously the starting-point for caravans travelling into the interior, and from it Stanley started in 1871 in quest of Dr. Livingstone. Once an important and flourishing town, it has to-day lost its importance, but it is likely always to be a trade centre owing to its proximity

to Zanzibar and to the fact that dhows are able to cross the channel separating the mainland and Zanzibar at all times of the year. The climate is hot and damp from November to May, but there is always a sea breeze, and the rest of the year is pleasant. Milk, eggs, poultry, fish and fruit are plentiful and cheap, while native vegetables and butcher's meat are obtainable. There is a tennis court, sailing and fishing, and a little bird and buck shooting.

Bukoba, the capital of the province which bears its name, is situated on a sand spit on the western shore of Lake Nyanza. It is 3,709 feet above sea level. The land rises steeply from the lake shore to a plateau nearly 1,000 feet above the town. Steamers of the Kenya-Uganda Marine call regularly at the port, which is an outlet for the native-grown *robusta* coffee, of which 6,794 tons were exported in 1929. The climate is damp, the wettest months being November, December and February to May. The cost of living is high, and meat, fish and milk are scarce. Eggs, fruit and vegetables are obtainable, and good butter, cheese and bacon can be ordered from Kenya. There is a tennis and golf club and occasional cricket and football.

Dodoma is an important town on the Central Railway, and lies on the great north road from Kenya to Rhodesia. The town is a centre of great transport activity, northwards towards Kondoia, Arusha and Nairobi, and southwards to Iringa and Tukuyu. It is the headquarters of the Central Province, is two hundred and eighty-six miles from Dar es Salaam, and stands 3,890 feet above sea level. It is situated in a sandy, thorn-bush plain, with a chain of rocky hills towards the south. The climate is dry and the country frequently suffers from drought. Mosquitoes are troublesome in the rainy months of November to April. Poultry, eggs, meat and milk are obtainable, and fruit and vegetables can be obtained from Morogoro or Kilosa. There is a golf course of a kind and two tennis courts, and good buck and bird shooting can be obtained in the vicinity.

Iringa is the headquarters of the province of that name and is one hundred and fifty-seven miles south of Dodoma on the Central Railway. It stands at 5,365 feet above sea level. It

is the centre of an area in which are a number of European farms, and is on the main motor route to Northern Rhodesia. The climate from January to May is cool and damp; June to August are cold months and fires are necessary at night. The rains break in December and continue until May. Living is good and cheap, and there is tennis and golf in the station, near which good bird and small buck shooting can be obtained.

Kigoma is the terminus on Lake Tanganyika of the Central Railway and is the headquarters of the Kigoma Province. It is seven hundred and seventy-three miles from the coast and stands 2,531 feet above sea level. It has a good harbour, which is used by the Tanganyika Railways steamship *Liamba* and by steamers of the Grand Lacs Compagnie. The months of May to September are hot and dry, but the rest of the year is cool. Eggs, vegetables and fruit are plentiful and good, and occasionally beef, mutton and fish are obtainable. Fresh milk can be procured and cows can be kept with some risk. All tinned provisions are expensive. For recreation there is tennis, also bathing and good fishing, while fair bird and buck shooting is obtainable. A few miles south of Kigoma is the Arab town of Ujiji, where Stanley met Livingstone in 1871. The original mango tree under which that meeting took place recently died of old age, but graftings were taken from it and have been planted in the same place. A stone memorial has been erected on the spot bearing the following inscription:

“Under the mango tree which then stood here,
Henry M. Stanley met David Livingstone,
10th November, 1871.”

Kilosa is a township in the Eastern Province on the Central Railway, one hundred and seventy-seven miles from Dar es Salaam and 1,606 feet above sea level. It is not healthy, malaria being prevalent, while blackwater fever is not unknown. Eggs, poultry and meat are always obtainable but are not very cheap: vegetables grow well, and oranges and limes are plentiful. The country is in a tsetse belt, but goat's milk can be obtained. Kilosa is the centre of a large cotton-growing and sisal area, and over land which was covered with virgin

bush but a few years ago now stretch several miles of cotton plantations. These are mainly owned by Greeks and Indians, though further afield from the railway cotton is planted by natives. The town lies at the junction of the main caravan road from the Tanga Railway to Mahenge and Songea in the south. The old caravan road to Iringa and Tukuyu formerly started from Kilosa and is still used to a certain extent, but with the construction of a good fair-weather road from Dodoma to Iringa it has lost its importance. A large labour camp has been erected by Government on the outskirts of the town to provide accommodation for the many thousands of natives travelling to and from the sisal plantations on the Tanga Railway and the south-western area.

Kilwa-Kivinje (Kilwa-of-the-Casuarina-trees), as opposed to Kilwa-Kisiwani (Kilwa-on-the-island), lies at the lower end of a broad, shallow bay, backed by high rolling ground. The mangrove-belted sea ebbs about a mile and flows right up to the buildings. According to Burton, Kilwa-Kivinje was founded about 1830 when the inhabitants of Kilwa-Kisiwani migrated there in order to avoid the British gunboats cruising in these waters and thus better to carry on the slave trade. The town is now the headquarters of the Kilwa district and is one hundred and fifty-four miles south of Dar es Salaam. The anchorage is bad and vessels have to lie far off the shore. The climate has the usual characteristics of the coast, the months of December to April being hot and damp. Fish, milk, eggs, poultry, native vegetables and fruit are cheap and good in season, but butcher's meat is difficult to obtain. There is a tennis court, a golf course and a freshwater swimming bath. Sea fishing is good and there is excellent big game shooting in the district.

Kilwa-Kisiwani, the Quiloa of the Portuguese, which, with Mombasa and Malindi, is mentioned in *Paradise Lost*, lies twenty-five miles to the south of Kilwa-Kivinje. It is a straggling little town built on an island, a low, flat break-water of sand and coralline, about five miles in length, which defends a fine deep harbour, land-locked on both sides.

Lindi is the headquarters of the Lindi Province and is a township of increasing importance through which is evacuated

most of the produce of the southern districts of the Territory. There is a considerable export of sisal from the neighbourhood and a large output of grain.

Lushoto is an administrative station in the Usambara Mountains and was formerly known as Wilhelmstal, having been built as a hill station for the German Government. In 1916 it became the headquarters of the Civil Administration, until their transfer to Dar es Salaam in 1919. The town is situated 4,590 feet above sea level and is reached by an excellent road from Mombo, the station on the Tanga Railway, which lies in the plain over 3,000 feet below. The road, however, is full of hairpin bends and should be negotiated with caution by the motorist. The town itself lies in a cup, but from the higher land overlooking the township fine views of the surrounding country are obtained. Supplies of all kinds are obtainable at reasonable prices. Five miles from Lushoto is situated the Magamba Country Club, where there is a good nine-hole golf course situated amongst glorious scenery, and trout fishing can be obtained in the cool mountain streams of the Usambaras.

Mahenge is the headquarters of the small province of Mahenge comprising the district of that name and the adjoining district of Songea. Mahenge is one hundred and seventy-seven miles from Kilosa, the nearest point on the Central Railway. It enjoys an elevation of 3,352 feet above sea level and the climate is good and healthy. The short rains fall in November and December, and heavier rains from January to May. Eggs, poultry, meat and milk are cheap and plentiful. There is good bird shooting and big game shooting in some parts of the district.

Mikindani is an administrative station in the Lindi Province and is the most southerly port of the Territory, possessing an excellent harbour, almost land-locked, at which the coastal steamer of the British India Line calls once a month. There is a large export of sisal, copra and cotton. Fish, poultry, eggs and fruit are plentiful, milk is obtainable, but butcher's meat is rare. Recreations consist of tennis, sailing and sea fishing, and there is good shooting of all varieties.

Morogoro is the headquarters of the Morogoro district of the Eastern Province. It is situated 1,628 feet above sea level and one hundred and twenty-six miles from Dar es Salaam on the Central Railway. The temperature by day is fairly hot and dry, but the nights are cool. The wet months are from December to May. The township, which is at the foot of the Uluguru Mountains, is the headquarters of the Agricultural and Labour Departments, and the training depot of the Tanganyika Police Force is established there. There is road communication with Dar es Salaam in the dry weather and considerable traffic along a good fair-weather road between the district and Korogwe, on the Tanga Railway. Cotton and sisal are cultivated in the Morogoro plains, and on the hills above are grown large supplies of vegetables which are sent down to Dar es Salaam. Eggs, poultry and vegetables are obtainable but are expensive, and milk can be procured, though with difficulty, as, except in the town and in the hills above, the tsetse fly is prevalent. There are tennis courts in the town, and excellent shooting can be obtained on the Wami plains, some twenty or thirty miles to the north.

Moshi is the administrative headquarters of the Moshi district of the Northern Province and stands 2,649 feet above sea level. The daily temperature can be hot and dry, but the nights are invariably cool. The rainiest months are October, November to March, and May. The town is situated on rising ground commanding an extensive view of the plains towards the south and east, and lies under the shadow of Kilimanjaro on the north. The first post established by the Germans was some six miles away on the rising slopes of the mountain, at an elevation of nearly 5,000 feet, and is now known as Old Moshi; but with the arrival of the Tanga Railway, which kept to the lower foothills, the present township grew up and became the centre of administrative and business activities. Moshi was until recently the terminus of the Tanga Railway, which was extended to Arusha in 1929. There is also rail communication with Nairobi and Mombasa via Voi on the Kenya-Uganda Railway. Meat is expensive but always obtainable, and milk, poultry, eggs, vegetables and fruit are

plentiful and cheap. There is a small tennis club, and game of all descriptions can be obtained in the district.

Mwanza, the capital of the Mwanza Province, is situated on the southern shore of Lake Nyanza, at an elevation of 3,709 feet. The town is not healthy, malaria and relapsing fever being the chief maladies. The temperature is high. The rains fall principally in February to April and in October and November, thunder-storms being frequent. Fish, meat, eggs, fruit and native vegetables are procurable at a reasonable price, but imported stores are expensive owing to the distance from the coast. There are tennis courts and a pleasantly situated nine-hole golf course. The lake offers facilities for fishing and sailing, but bathing is dangerous owing to crocodiles.

Pangani is the administrative station of the Pangani district, and is situated at the mouth of the river of that name. The climate is of the usual coastal variety, being hot and enervating for some months in the year. The town lies on the north bank of the river, and for years after the German occupation of the country remained the stronghold of the Arabs. The estuary is protected by a bar, and only light-draught vessels can cross the bar and anchor off the town, others having to lie out in the roadstead three or four miles off. Coastal steamers call irregularly, but there is a considerable dhow traffic, particularly with Pemba and Zanzibar. There is easy communication with Tanga, thirty miles away, by a good motor road. Local foodstuffs are plentiful and fairly cheap, except milk and vegetables, which are hard to obtain. There is a tennis court, good bathing, sailing and sea fishing.

Songea, the headquarters of the district of that name, is situated about 3,826 feet above sea level in the extreme south-west of the Territory. It can be reached by car via Kilosa and Mahenge, a distance of four hundred and fifty-five miles, or from Lindi, which is three hundred and eighty miles away. Formerly, communication was by way of Nyasaland, the steamers on Lake Nyasa calling at the lake port of Manda, which is five or six days' march from the township. The climate is warm from October to March, but cool from June

to August and fires are then needed at nights. The town is healthy, but is not free from malaria. Eggs, poultry, meat and milk are cheap, but fruit and vegetables are scarce, while all tinned provisions are very expensive owing to transport. There is a tennis court, and good big game and bird shooting in the neighbourhood.

Tabora is the capital of the province of that name, and is at present the largest town in the interior on the Central Railway, having a native population of about 30,000. It is situated on the old caravan route from the coast to Lake Tanganyika, and until near the end of the last century was a great centre of the slave and ivory trade and the home of a number of wealthy Arab merchants. The extension of the Central Railway to Lake Nyanza has, however, increased the importance of Mwanza, which is the terminus town; while Dodoma, as the half-way house in the Territory on the great north road, is already a centre of considerable activity and is likely to eclipse Tabora in importance before long. The climate of Tabora is dry and hot, but not uncomfortably so, and the nights are cool, the town standing at an elevation of about 4,000 feet above sea level. Tabora became the seat of the German Government for a brief space after the evacuation of Dar es Salaam, but was occupied by Belgian troops in September, 1916. Supplies of all kinds are procurable, but freight on tinned goods, petrol, etc., makes the cost of living rather expensive. There are two golf courses, and tennis, cricket and football are obtainable.

About four miles from the town are the remains of an Arab-built house, constructed of mud bricks with an earth roof, in which Livingstone and Stanley lived for a few weeks in 1872. The site is marked by a fine obelisk with an appropriate inscription.

Tanga is the second most important seaport in the Territory, although before the war the export trade from Tanga was double that of Dar es Salaam. It is built on a plateau above an almost land-locked harbour, and is prettily situated among coconut palms and mango trees. It is one hundred and thirty-six miles north of Dar es Salaam, and eighty miles south of Mombasa, which can easily be reached by car. The

climate is pleasant from May to September, but it is very hot and enervating from February to April. Mosquitoes are abundant from March to June, and there is a good deal of malaria. The wettest months are those of the big rains, namely, March to April, the small rains falling in October and November. Supplies of all kinds are obtainable, but living is not cheap. A Gymkhana Club, where most games are played, and an excellent little golf course provide facilities for recreation, and there is good sailing and bathing. The proximity of the Usambara highlands enables residents to obtain a welcome change of climate with little difficulty, either by train or car from Tanga.

Tukuyu is the headquarters of the Rungwe district in the Iringa Province and, situated at 5,069 feet above sea level, enjoys a cool, bracing and healthy climate. The rainfall is heavy, except in the months of August to October. Meat, milk, fruit and vegetables are cheap and plentiful, but all imported stores are costly owing to the high cost of transport. Tukuyu is reached by car from Dodoma on the Central Railway, four hundred and fifty-three miles away, and there is an alternative exit through Nyasaland, Mwaya, the port on Lake Nyasa, being only thirty-eight miles from the station. There is a Gymkhana Club, where golf and tennis are played, and a little shooting is obtainable in the neighbourhood, more particularly duck on Lake Nyasa.

In addition to the above, which are the principal townships in the Territory, the following are the larger settlements or administrative stations:

Biharamulo. Headquarters of the Biharamulo District of the Bukoba Province.

Handeni. Headquarters of the Handeni District of the Tanga Province.

Kahama. Headquarters of the Kahama District of the Tabora Province.

Kahama is the centre of the sleeping-sickness operations in the province.

Kasulu. Headquarters of the Kasulu District of the Kigoma Province.

Kibaya. Headquarters of the Masai District of the Northern Province.

Kibondo. Headquarters of the Kibondo District of the Kigoma Province.

Kimamba. A large settlement populated mainly by Greeks in the Kilosa District of the Eastern Province and the centre of a number of large cotton and sisal plantations.

Korogwe. Headquarters of the Korogwe District of the Tanga Province.

Kwimba. Headquarters of the Kwimba District of the Mwanza Province.

Liwale. Headquarters of the Liwale District of the Lindi Province.

Manyoni. Headquarters of the Manyoni District of the Central Province.

Masasi. Headquarters of the Masasi District of the Lindi Province.

Maswa. Headquarters of the Maswa District of the Mwanza Province.

Mbeya. Headquarters of the Mbeya District of the Iringa Province.

Mbulu. Headquarters of the Mbulu District of the Northern Province.

Mpwapwa. Headquarters of the Mpwapwa District of the Central Province.

The Headquarters of the Veterinary Department is established here.

Musoma. Headquarters of the Musoma District of the Mwanza Province.

Njombe. Headquarters of the Njombe District of the Iringa Province.

Nzega. Headquarters of the Nzega District of the Tabora Province.

Shinyanga. Headquarters of the Shinyanga District of the Tabora Province.

Ute. Headquarters of the Rufiji District of the Eastern Province.

GEOLOGY.

The geological formations of the Territory may be briefly summarized as follows:

1. The Old Rocks, Archæan to Mesozoic.
2. The Igneous Rocks.
3. The Younger Rocks (chiefly of the coastal zone), Mesozoic and Kainozoic to Recent.

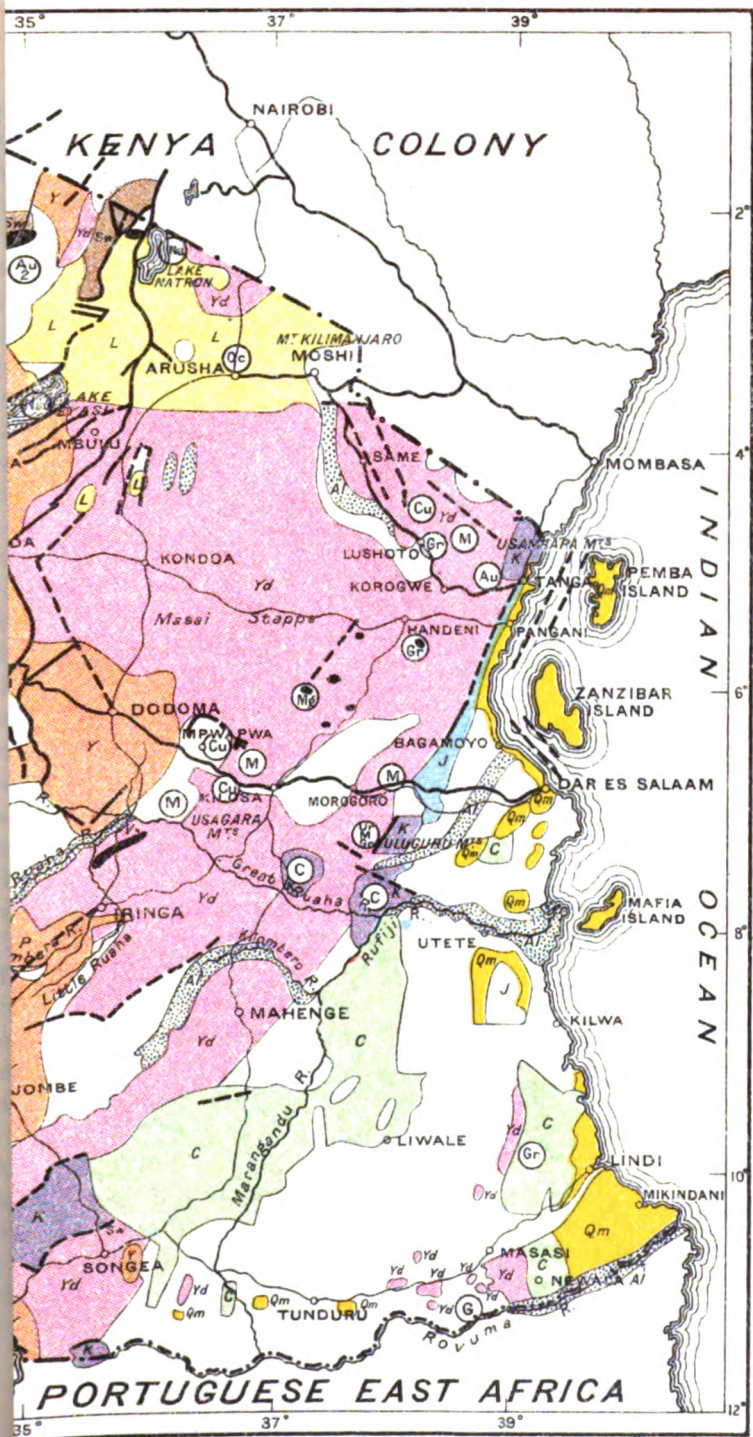
1. THE OLD ROCKS, ARCHÆAN TO EARLY MESOZOIC.—The rocks described under this category occupy almost three-quarters of the surface of the Territory and large areas are readily accessible to the geologist, and being covered in many places by a relatively thin mantle of soil have received considerable attention. The following groups are recognizable:

- (a) The Ancient Crystalline Complex.
- (b) The Archæan Schist Complex.
- (c) The Kagera Beds and Kigoma Beds.
- (d) The Bwanji Beds, Kasanga Beds and Bukoba Sandstones.
- (e) The Karroo System, including the Malagarasi Beds and the Tanga Beds.

The above groups are correlated, provisionally, with similar systems in South Africa, but, except in the case of the Karroo, the absence of fossils makes the correlation somewhat speculative.

(a) *The Crystalline Complex.*—These rocks occupy a wide belt extending from the north-east corner of the Territory to the southern end of Lake Tanganyika, and from the Uganda boundary to near Mahenge, where they disappear underneath the Mesozoic and Kainozoic rocks of the coastal belt. They are traceable continuously as a broad belt from the north-east frontier of the Territory in Usambara, south-west through the districts of Kondoa-Irangi, Pangani in part, Dodoma, Morogoro, Mahenge, Iringa, Rungwe and Songea to Lake Nyasa, a distance of more than five hundred miles, and to the east of Lake Tanganyika, where they include the greater portions of Ufipa.

Topographically they provide types of country varying



from mountain masses of imposing grandeur to dreary, featureless, thorn-covered plains. Notable among the mountain masses are the Usambara and Pare highlands in the north-east; the Kaguru, Usagara and Uluguru massifs of the Morogoro and Dodoma districts; the highlands of Mahenge, the Livingstone Mountains to the east of Lake Nyasa, and the mountains of Ufipa to the east of Lake Tanganyika. Much of this country lies from three to five thousand feet above sea level, whilst its highest mountains reach up to nine thousand feet. An interesting portion of the great East African Rift system traverses the greater part of this country, and its effect on the topography has been to create imposing scarps and intervening sunk lands, which often contain shallow lakes. The prevailing rock is gneiss, and biotite-gneiss is the predominant type. A highly graphitic gneiss is strongly developed in many areas, often in the vicinity of crystalline limestone as in the Handeni district and the Uluguru Mountains. The hinterland of Lindi, west of Muera plateau, is the best known of several graphitic zones in the southern portion of the country. Hornblende-gneisses with or without biotite are the next most common type, and graphite-gneiss, pyroxene-gneiss, scapolite-gneiss, kyanite and sillimanite-gneisses are recorded. As an accessory mineral, garnet is commonly found and varies from a pale pink to a deep red colour. Kyanite occurs in long blade-like crystals of an attractive blue colour.

Closely associated with the gneisses, crystalline limestones and granulites of various types are found. These rocks have a very important development in a wide zone extending from the extreme north-east on the Uмба River, south-west to at least the Mahenge district, a distance of about three hundred and fifty miles. The best known outcrops occur on the Uмба River close to the Kenya frontier, in the Handeni district, where it has been locally burnt for lime; in the Uluguru Mountains along the eastern slopes, where a particularly large deposit occurs: good exposures are visible in the gorge of the Ruvu River, and thick beds are again recorded in the vicinity of Mahenge. The limestones lie along the eastern margin of the region occupied by the Archaean

rocks. They are usually coarsely crystalline, are white or bluish grey in colour, and are often dolomitic. They are often found closely associated with graphitic-gneiss, and, where influenced by contact metamorphism, characteristic minerals such as woollastonite, diopside, forsterite, scapolite and occasional flakes of graphite are found. The granulites are not confined to any particular locality, and various types range from light-coloured acid granulites to dark basic granulites in which pyroxene, hornblende and biotite preponderate. Hypersthene is also recorded as an important constituent of the pyroxene rocks.

In these old rocks igneous intrusions of various types are found. Of the acid type, granites and pegmatites are widespread, and a few intrusions of a basic character are known. It is from these pegmatite veins that all the mica mined in the Territory is won. Little is known of the basic rocks intrusive into the gneisses, but isolated occurrences are recorded. Of the economic minerals and metals (such as asbestos, chromite and the platinoid metals) commonly found in a basic rock environment, only asbestos has as yet been found, though an unconfirmed report of the occurrence of chromite has been received.

(b) *The Archaean Schist Complex* (comparable with the Swaziland System).—Superficially these rocks have a very restricted distribution in the Territory, but nevertheless they are of importance economically on account of the occurrence of many of the gold deposits in them. The prevailing rocks are typically schists derived from the metamorphism of both igneous and sedimentary rocks. They include quartz and mica-schists, banded magnetite quartz-schists closely resembling the banded ironstones of Rhodesia, and basic schists derived from the metamorphism of ancient diabases and other basic rocks. These schists usually occupy narrow belts in the vast granite regions forming the southern and south-eastern shores of Lake Nyanza.

(c) *The Kagera Beds and Kigoma Beds*.—Rocks under this category bear a resemblance to those of the Witwatersrand system, and are tentatively correlated with it. They consist of quartzites and conglomerates at Kigoma, whilst in the

Kagera region quartzites and phyllites predominate. In the latter region they have been intruded by granite and by pegmatite veins, some of which have been proved to be tin-bearing.

(d) *The Bwanji Beds, Kasanga Beds and Bukoba Sandstones.*—All these rocks have suffered less alteration than those described above. The Bwanji beds embrace chocolate-coloured sandstones and shales gently inclined and containing, in the residual fragmentary upper portions, limestones capped with an ancient amygdaloidal andesitic lava. The shales have been proved to contain nodules of the copper-bearing minerals, chalcocite and malachite in one area. The Kasanga beds have not been exhaustively examined, but reddish sandstone seems to predominate. Along the eastern portion of the Bukoba district there is a belt of rocks in which hard, gently inclined sandstones predominate, and they are said to rest unconformably upon the Kagera quartzites described above. Waterberg age is ascribed to the rocks of this group.

(e) *The Karroo system.*—In this group of sedimentary rocks the first undoubted fossils have been found, consisting of a freshwater fauna and terrestrial flora, embracing a fossil fish, freshwater mollusca and the typical fossil fern *glossopteris*, which clearly correlates these beds with the Karroo of Southern Africa.

These beds are distributed along two distinct zones, a far inland or western and an eastern or coastal zone. The western occurrences are in the form of down-faulted blocks let into the Ancient Crystalline Complex and occurring at intervals along the line of the western Rift. From north to south the following areas are known: Rukwa, Yenda-Malela, Songwe-Kavira and Ruhuhu. Similar occurrences continue southerly into Nyasaland and Portuguese East Africa. They represent remnants, preserved by faulting, of formerly more extensive lacustrine basins. Of the above-named areas, all are known to be coal-bearing with the exception of Yenda-Malela. The largest individual area is that of the Ruhuhu, but the known coal seams are thin and impure.

The Songwe-Kavira region to the north-north-west of Lake Nyasa has received most geological attention as it is

noteworthy for the large number of coal seams occurring in a relatively small vertical distance. Many of these are too thin to work and the coal is of variable quality, but certain seams would be valuable if situated more favourably economically.

In the eastern or coastal region the following four areas are known: the Kidodi, Rufiji, Tulo and Tanga districts respectively. In the first two, coal has been found but not of economic value. The regions have not yet been exhaustively examined.

The Kidodi district is roughly about fifty miles south from Kilosa and forms an isolated area surrounded by the ancient crystalline complex. The Rufiji region lies about twenty to thirty miles south-east of Kisaki or eighty to ninety miles in a direct line from the coast at the mouth of the Rufiji. Tulo is about thirty miles in a straight line south from the Central Railway at Mikesse. This region is the northerly continuation of the Rufiji, being only separated from it by a wide mantle of recent alluvium. Conglomerates, feldspathic sandstones, black carbonaceous shales, grey shales and calcareous sandstones recall the lithological features of the western areas, but the complete section is not revealed and details of structure are sometimes complicated by faults. The boundaries with the crystalline rocks are, in part at any rate, marked by faults, but the margins require closer investigation. Well-preserved fern impressions of *glossopteris* at several localities in the Rufiji area indicate that the rocks are of Lower Karroo age.

The Karroo beds as known in this country can be divided into two, an upper division and a lower. The upper division contains friable coarse-grained sandstones, sandy clay shale, shaly sandstones, beds with calcareous concretions, calcareous sandstone and non-fossiliferous limestone. From the fossils collected in this upper zone, though poorly preserved, are ascribed affinities with European rather than South African for the rocks of this upper horizon. The lower division consists of dark carbonaceous clay shale with coal seams, thick bedded massive sandstones and basal conglomerates. At least eight widely separated occurrences of these rocks are known and coal has been found in three.

The Malagarasi and Tanga Beds. There is an extensive area

of unaltered sediments, little disturbed except in the vicinity of Lake Tanganyika, lying to the east of Kigoma and along the Malagarasi valley. They consist of sandstones, shales and limestone. They were at one time provisionally included in the Karroo System, but until recently they have yielded no fossils. Hence they were generally regarded as older, possibly the equivalent of the Kundelungu beds of the Congo. Comminuted plant remains have now been recognized in shales identical in character with the Karroo beds elsewhere in the Territory, and associated with other beds so closely similar lithologically to the typical Karroo that there is every reason for correlating them with this system. In the Tanga region the beds actually reach the coast between Tanga and Moa, where they are fringed by recent coral rock and mangrove swamps. They extend inland for a distance of fifteen to twenty miles to the eastern margin of the crystalline rocks. The fossil plants collected were poorly preserved but agree in indicating a higher horizon than the beds to the south. Professor Seward describes them as having European rather than South African affinities. It is noteworthy that no *glossopteris* has been recorded from this region. A reptile discovered by F. P. Mennell and described by Dr. Haughton as *Tangasaurus Mennelli*, a new genus, has not helped the correlation materially.

2. THE IGNEOUS ROCKS.—Granites and grano-diorites bulk most largely amongst the igneous rocks in the Territory, and cover thousands of square miles, mainly in the Mwanza, Tabora and Central Provinces. A smaller area of granite country lies in the south-western corner of the Territory. The larger granite mass appears to exist as a vast complex batholith which has engulfed much of the older crystalline rocks, and consequently many varying types of granitic rocks occur. The pegmatites, as mentioned above, are widespread amongst the gneisses, and are the sources of the mica and tin exploited in the Territory.

Another important group of intrusive igneous rocks are the diorites and quartz-diorites occurring in the granite country, where in many cases they are associated with the gold-bearing quartz veins.

Among the basic and ultrabasic intrusives, dolerites are the most common and are found throughout the country mainly as dykes. Kimberlites, in some cases diamond-bearing, occur in the Mwanza Province at Mabuki and in the Tabora Province at Shinyanga. They are the undoubted source of the diamonds which have been won in recent years.

The volcanic rocks fall into two main groups, the ancient volcanics and the late. The ancient volcanics comprise both acid and basic material, including lava and also ash beds. The most extensive area where these volcanics occur is in the Iringa Province, whilst in the Kigoma Province the porphyritic rocks probably include much acid volcanic rock. Amygdaloidal diabase occurs north of Kigoma and is associated with cherts which are in part silicified tuffs.

The late volcanics include the vast area covered with lava and tuff, ranging from Cretaceous to Recent. These rocks form large lava sheets and masses piled high round volcanic vents in the northern region of the eastern Rift zone and in the Rungwe district between lakes Rukwa and Nyasa in the western Rift area. The rocks include extensive areas of ejected material, from fine tuffs to coarse breccias. These regions contain some of the most interesting, picturesque and fertile parts of the country. Many of the high volcanic peaks with their forest-clad slopes are good rain collectors, giving rise to numerous permanent streams which water the fertile soil of the surrounding country, notably around Kilimanjaro and Meru in the Arusha district.

The less known and more inaccessible region of the giant craters to the south-west from Kilimanjaro provides a marvellous array of volcanic vents, some of huge dimensions, notably that of Ngorongoro with a crater more than twelve miles in diameter. The rocks include basic and ultrabasic calcic lavas and numerous members of the alkaline suite of rocks, with their equivalent tuffs often of considerable extent. Of the alkaline rocks the following have been described: trachyte, trachy-andesite, trachy-dolerite, kenyite, phonolite, nepheline basalt, nepheline basanite, melilite basalt, and nephelinite.

The question of the age and relationship of these rocks is

a difficult one. Gregory considers it probable that the first effusions took place in Kenya in Upper Cretaceous, but probably at a later date in Tanganyika Territory. It is clear that there has been a long, intermittent succession of periods of active volcanicity, separated by quiescent stages, down to recent times.

3. THE YOUNGER ROCKS.—Approximately one-fifth of the Territory is covered by rocks of this group, and in origin they are chiefly marine with some terrestrial and estuarine deposits and range from Jurassic times to Recent. These sedimentary rocks form a rough triangle, having Tanga as an apex and a greater part of the southern boundary of the Territory for a base.

The following systems are represented:

- (a) Jurassic.
- (b) Cretaceous.
- (c) Older Kainozoic.
- (d) Younger Kainozoic.
- (e) Recent.

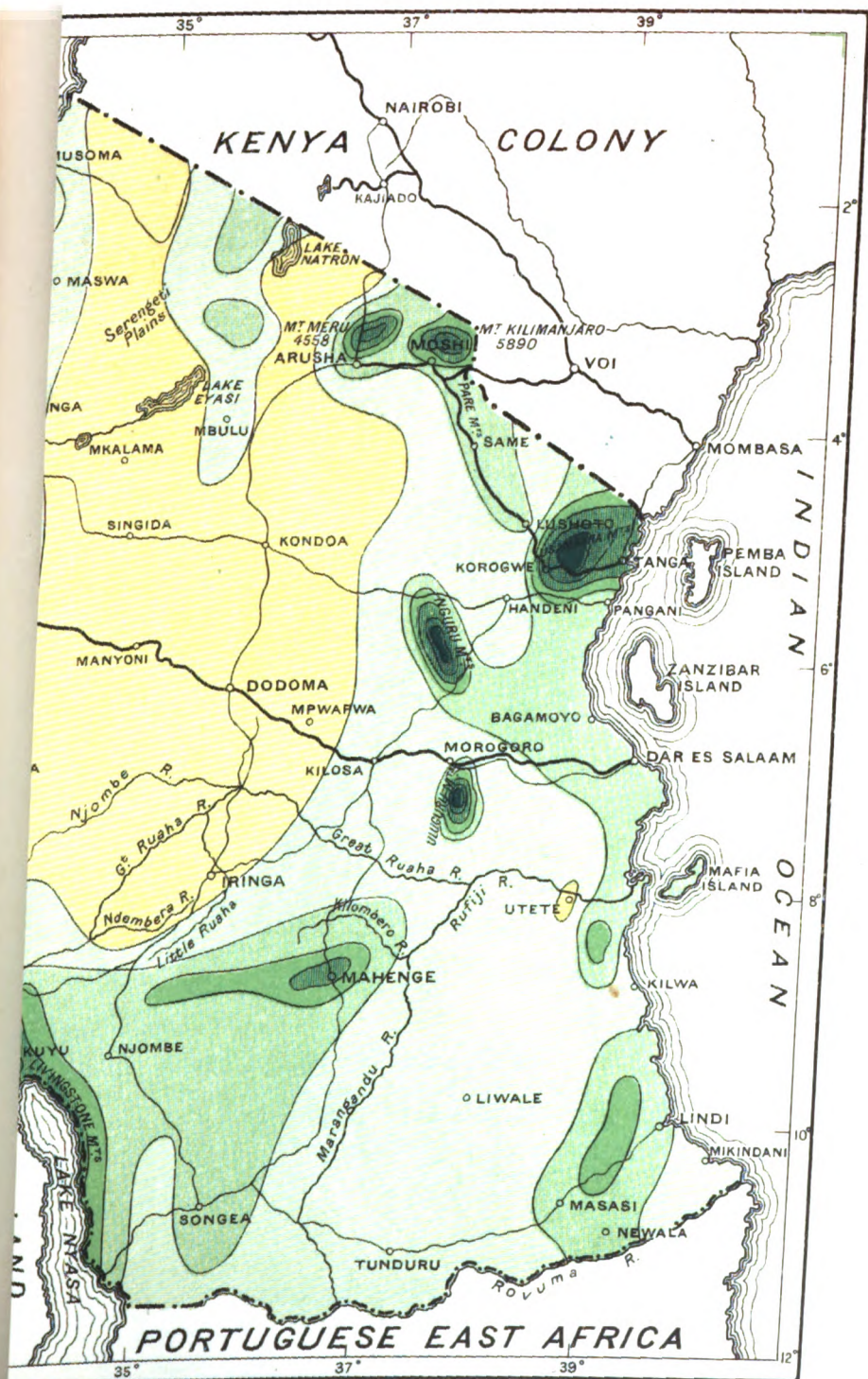
(a) *Jurassic*.—These sediments are of marine origin and are now found a hundred miles inland, and were uplifted eight hundred feet above sea level and now rest tilted at a gentle angle seawards. The rocks of this system are mainly limestones, calcareous sandstones and marls, and are noteworthy as forming the graveyard of the now famous *gigantosaurus*, a prehistoric reptile which was perhaps the largest animal that ever walked the earth.

(b) *Cretaceous*.—Cretaceous beds succeed the Jurassic rocks and are extensively developed in the Lindi Province. The principal rock of this system is a sandstone which takes its name from Newala, an administrative post near which it was first recorded. These sandstones extend inland for one hundred miles and gradually rise to two thousand feet above sea level. They have a gentle dip seawards and consist of terrestrial deposits which often contain fragments of silicified wood.

(c) *Kainozoic Deposits*.—The older Kainozoic beds occur close to the coast between Kilwa and Lindi, rising to less

than two hundred feet above sea level, and consist of clays, marls and limestone bands, ranging from Lower Eocene to Upper Oligocene.

(*d*) and (*e*).—Boring for water in Dar es Salaam proved the existence of Pliocene beds underlying the town, whilst certain of the marls and limestones of Mafia Island probably range from Miocene to Pleistocene. Marine beds of young Kainozoic to Recent are represented chiefly by the reef coral rocks of the coastal margin and also by some of the unconsolidated old shore deposits.



London: Macmillan & Co. Ltd.

Stanford's Geog. Estab^s, London.

CHAPTER II

CLIMATE AND METEOROLOGY

THE climate of the coast is characterized by high humidity The coast. of atmosphere, a fair rainfall and a temperature moderated by the proximity of the Indian Ocean, from which blows a constant breeze. The average temperature is 78° , the yearly variation on the northern coast being about 13° and about 20° on the southern part of the coast. The rainfall averages about forty inches, which is low for a tropical coast-belt, the greater rains, or the 'Masika' as they are known in Swahili, falling between March and May shortly before the advent of the south-east trade winds. The south-east monsoon starts in May or June and continues until September or October, and it is this period when the winds blow from south-east to south-west that is the cool dry season, or the 'winter' of the coast. After an interval of varying and gentle winds, which give rise to a lesser rainy season in October or November, the north-east monsoon sets in, bringing with it the driest and hottest time of the year, December to February.

In the hot and arid zone of the central plateau, averaging The central plateau. some 2,000 to 4,000 feet above sea level, the climate is subject to considerable changes of temperature and differs greatly in parts. Its prevailing characteristics are very low humidity of temperature, little rainfall, a fairly high mean temperature and great daily and yearly variations, which at Tabora sometimes exceed 36° F. daily. If the midday temperature is hot and dry, it is not so trying to the European as the moist heat of the coast, and the nights have the merit of being invariably cool. The rainy season sets in earlier, the average rainfall of thirty inches or less being distributed over the months of

November to April, while the remaining months are dry. Severe droughts are experienced at times.

The
highlands.

The highlands of Kilimanjaro, the south-west, and the mountain ranges of Usambara, Pare and Uhehe have a climate which is almost European. The nights are often exceedingly cold and the air is cool and invigorating even during the warmer months; the rainfall is abundant, while morning mists prevail and frosts are experienced.

Meteorologi-
cal table.

A table is given on the next page showing meteorological data for the various Provinces.

Earthquakes.

Earthquakes have been recorded in the Usambara and Ufume country in the north and in the Livingstone Mountains in the south-west. Since systematic observations were made by the Germans the chief activity in Usambara was in 1911 and in the Livingstone Mountains in 1909, the number of days on which earthquakes were registered being fifteen and twenty-six respectively.

During May and June, 1919, very severe seismic disturbances were experienced in the south-western portion of the Territory, which wrecked the Government station and several mission buildings in the Rungwe district and caused much damage at Songea. The first shock was felt as far north as Iringa and as far south as Fort Johnston in Nyasaland. At Tukuyu the shocks occurred almost hourly till the end of the month, and at Songea seventy-two separate shocks were recorded. They appeared to emanate from the Livingstone Mountains and to travel in a north-easterly or north-westerly direction. All earth tremors were accompanied by heavy rumblings, whilst rumblings were frequently heard though no shock was felt. A fall of a side of a mountain took place behind Tukuyu and it is estimated that some five million tons of earth and rock must have been displaced. A series of falls also occurred in the Livingstone Mountains which quite altered the appearance of the country.

At the end of 1927 earth tremors were felt in the vicinity of Lake Natron, the soda lake on the Kenya-Tanganyika border; a traveller observed that the lake had doubled in size, that the waters of the lake were exceedingly agitated and that pillars of dense steam arose from the surface, to the

Province.	Station.	Long. E.	Lat. S.	Altitude in Feet.	Air Temperature (Degrees Fahrenheit), Comparative Averages In 1928.										Rainfall (Inches).			
					Dry Bulb.		Wet Bulb.		Mean.		Means of		Absolute Maximum and Minimum.					
					9 h.	14 h.	9 h.	14 h.	Max.	Min.	Max.	Min.	Max.	Date.	Min.	Date.	No. of Years' Observations.	Mean Annual Rainfall.
Northern	Arusha	36° 43'	3° 23'	4416	62·7	73·2	80·6	67·0	..	65·5	74·2	55·5	89·6	Feb. 10	48·2	July 4	7	44·18
	Moehl	37° 22'	3° 22'	2649	60·9	79·7	87·6	76·2	..	73·6	84·4	62·8	100·2	Feb. 7	50·0	July 20 July 23	20	41·28
Tanga	Tanga Amani Lushoto	33° 7' 38° 38' 38° 18'	5° 40' 5° 6' 4° 48'	S.L. 3004 4590	63·1 72·9 68·1	72·9 65·4 ..	65·4 67·2 ..	67·2 ..	..	68·3 68·3	75·1 ..	61·4 ..	85·1 ..	Feb. 10 ..	52·6 ..	Aug. 6 ..	26 18 18	59·24 80·09 44·24
Eastern	Dares Salaam Kilosa Ngerengere	39° 40' 37° 1' 38° 8'	6° 50' 6° 48' 6° 47'	30 1806 641	79·7	83·5	75·6	75·6 ..	..	70·2 ..	86·1 ..	72·1 ..	95·0 ..	Feb. 14 Mar. 2 ..	61·2 ..	July 2 July 3 ..	26 18 7	40·00 34·97 35·26
Lindi	Lindi Kiwa	33° 43' 39° 24'	10° 0' 8° 57'	S.L. S.L.	.. ..	.. ..	.. ..	.. ..	..	80·1 ..	86·1 ..	74·1 ..	93·2 ..	Jan. 26 ..	60·8 ..	July 1 ..	20 21	40·45 34·38
Central	Manyoni Kondoa	34° 7' 35° 35'	5° 39' 4° 57'	4135 4610	.. ..	.. ..	.. ..	.. ..	..	69·5 ..	85·3 ..	56·9 ..	89·6 ..	Oct. 24 Oct. 19 Nov. 26 Nov. 27	46·4 ..	July 15 July 19 July 21	6 15	27·06 20·30
Tabora	Tabora Nzega	32° 0' 33° 8'	5° 0' 4° 15'	4000 4000	.. ..	.. ..	.. ..	.. ..	..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	20 4	32·56 33·13
Kigoma	Kigoma Kasilo	29° 38' 30° 7'	4° 52' 4° 35'	2531 4530	.. ..	.. ..	.. ..	.. ..	..	76·8 ..	85·2 ..	68·3 ..	95·0 ..	Jan. 11 ..	62·6 ..	July 17 Nov. 14	7 7	38·08 45·68
Iringa	Iringa Tukuyu	35° 37' 33° 38'	7° 47' 9° 15'	5365 5069	.. ..	.. ..	.. ..	.. ..	..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	11 17	26·51 91·51
Mahenge	Mahenge Songea	36° 43' 35° 4'	8° 40' 10° 42'	3352 3826	.. ..	.. ..	.. ..	.. ..	..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	17 17	66·81 45·02
Mwanza	Mwanza Musoma	32° 53' 33° 47'	3° 32' 1° 28'	3709 3709	73·1 ..	80·9 ..	69·0 ..	76·2 ..	..	73·6 ..	83·2 ..	64·0 ..	89·8 ..	Jan.-Feb. Mar.-Apr. Sept., Nov.	51·9 ..	July 5 ..	18 6	39·59 30·48
Bukoba	Bukoba Biharamulo	31° 47' 31° 26'	1° 20' 2° 42'	3709 4950	.. ..	.. ..	.. ..	.. ..	..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	19 7	75·98 36·97

alarm of the huge herds of game, which fled from the neighbourhood. These phenomena continued for two days, when the waters receded.

East African
Meteorologi-
cal Service.

In 1926 a representative of the Egyptian Government, which had recognized for some time that information as to the weather conditions in the area of the Nile headwaters would be of great value in connexion with the Nile water supply, recommended the formation of a joint East African Meteorological Service, a conclusion which had been reached about the same time by the Statistician to the Governors' Conference Secretariat in Kenya. The Governments of Kenya, Uganda, Tanganyika, Northern Rhodesia and Zanzibar agreed to participate in such a service, subscribing in agreed proportions according to their means, and the Government of the Sudan later notified its willingness to come into the scheme. The Egyptian Government contributes £2,400 a year to the annual cost of the service, which is estimated to commence at £7,000 in the first year and to rise to £8,500 in the fifth year of its establishment.

A first order station is to be established in each of the territories of Kenya, Uganda and Tanganyika, which will be fully equipped with instruments for recording continuously pressure, temperature, humidity, and rain and sunshine. A number of second order stations will be set up in each territory at centres where, in fact, meteorological data are already collected, at which regular observations can be taken. Places where volunteer observers may be willing to take simple observations of rainfall, temperature and cloud once daily will be classed as third order stations and will be as numerous as possible.

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WAHA NATIVES OF THE KASULU DISTRICT
The one on the left has a nose clip for retaining liquid snuff

CHAPTER III

POPULATION, ETHNOGRAPHY AND LANGUAGE

ACCORDING to the figures of a German census taken in 1913 the total native population on the 31st March of that year was about seven and a half million, of whom three and a half million belonged to the Residencies of Ruanda and Urundi. The precise total for the Territory, exclusive of those two Sultanates, which are now administered by Belgium, was 4,145,000. Native population :
German census.

The first census taken under British occupation was that of 1921, which showed the total native population as 4,107,000. Census of
1921. While the total figures of the German census and the census of 1921 were almost exactly the same, a comparison of the totals for the various districts showed that the populations of all the inland districts except Dodoma, Kondoa-Irangi and Mahenge had increased, some of them considerably, and that the population of all the coast districts had decreased (Lindi, for example, showed a decrease of 38 per cent). The decrease in Dodoma and Kondoa-Irangi was explained by the fact that in those districts great numbers died during the famine in 1919, while that in Mahenge was no doubt due to the fact that considerable military operations were conducted in that area. The decrease in the coastal districts was due to a steady decline in the birth-rate among a people whose morals are lax in comparison with those of the more primitive and virile tribes of the interior, and the proportion of children to adults in Lindi, for example, was 1 : 2.6 as against an average ratio of 1 : 1.5 among up-country tribes.

No statutory census has taken place since 1921, the next decennial one being due in 1931, but counts were made by Count in
1928.

native administrations in 1928 which may be regarded as the most accurate statistics yet obtained of the native population of Tanganyika, as the return of 1921 and, doubtless, that of 1913 were based in many cases on an estimate instead of an actual count.

Comparative
table.

Comparative figures by provinces for the 1913, 1921 and 1928 returns are given below. Returns for the last-mentioned year show a total increase in the whole population of over 15 per cent since 1921; but while a general increase has no doubt taken place in recent years, no comparative analysis can safely be made either of the sum totals or of the population of the various provinces owing, firstly, to the inaccuracy of the figures for 1913 and, secondly, to the re-arrangement of district boundaries since that census was taken.

Province.	Census 1913.	Census 1921.	Census 1928.	Increase of 1928 Census over 1921.	Decrease of 1928 Census on 1921.
Mwanza .	620,000	702,300	798,647	96,347	..
Central .	517,700	467,590	607,467	139,877	..
Tabora .	437,500	502,100	533,746	31,646	..
Eastern .	481,800	463,700	519,216	55,516	..
Iringa .	285,800	342,000	413,882	71,882	..
Lindi .	491,700	327,400	357,255	29,855	..
Tanga .	305,500	269,900	349,375	79,475	..
Bukoba .	270,500	320,100	348,036	27,936	..
Northern .	202,500	255,900	324,991	69,091	..
Kigoma .	240,000	233,100	290,519	57,419	..
Mahenge .	210,300	222,800	197,572	..	25,228
	4,063,300	4,106,890	4,740,706	659,044	25,228
Net Increase . . .				633,816	

Non-natives :
German
census.

According to German figures there were, shortly before the war, about 15,000 non-natives resident in German East Africa. Of these, 5,336 were Europeans, 3,536 being adult males, 1,075 adult females and 725 children. The adult males were engaged in the following occupations:

Civil officials .	.	.	.	.	551
Military officials .	.	.	.	.	186
Missionaries .	.	.	.	.	498

III POPULATION, ETHNOGRAPHY, LANGUAGE 33

Planters	882
Engineers and contractors	352
Mechanics, carpenters	355
Commercials	523
Professional men and others	189

There were about 10,000 Indians, Arabs, Syrians and Goanese.

The census of 1921 showed that there were 2,447 Europeans, ^{Census of 1921.} of whom 1,598 were British subjects. The German subjects had been deported and had not then received permission to return to the Territory. There were 14,991 Asiatics, of whom 9,411 were Indians, 4,041 Arabs, 798 Goans and 741 unclassified.

A count of the European population was taken at the ^{Census of 1928.} beginning of 1929 and showed a total of 5,778, of whom 3,250 were men, 1,535 women, 508 male and 485 female children.

A comparison between the population by nationalities in 1913 and 1929 is shown in the following table: ^{Comparative table.}

	1929.	1913.
British (including South African Dutch)	3,067	411
Germans	1,333	4,107
Greeks	633	208
Swiss	195	Included in "Other Nationalities".
French	193	130
Italians	99	65
Belgians	48	Included in "Other Nationalities".
Americans	59	Included in "Other Nationalities".
Czechoslovaks	24	Included in "Other Nationalities".
Austrians	24	99
Danes	22	Included in "Other Nationalities".
Russians	16	51
Hollanders	14	62
Others	51	203
	<u>5,778</u>	<u>5,336</u>

The aboriginal inhabitants of Central Africa are thought to have been a dwarf-like people, whose scattered descendants are to be found amongst the bushmen of the Kalahari Desert, the pygmies of the Semliki forest and Ruanda, and the helot races living with some of the Hamitic tribes, such as the Wate ^{The native tribes of Tanganyika.}

D

among the Galas, the Tomal, Yibir and Midgan amongst the Somalis, and the Mindsho in Kaffa. In Tanganyika the Sandawe, a small tribe totalling 20,000 in Kondoa-Irangi, are probably descendants of these aboriginal inhabitants of Central Africa. In the neighbourhood of Lake Eyasi is a small tribe of Kangeju bushmen, known also as the Tindigo. To their ancestors, perhaps, may be ascribed certain rock paintings which were discovered in 1922 on the eastern edge of the Iramba plateau, though the tribe, while admitting that the paintings might have been the work of Kangeju of long ago, denied that any of their members can paint to-day. All the paintings are of animals, *e.g.* ostriches, giraffe and antelope, and are outlined drawings in red pigment which, though exposed to all the elements and chipped about by human hands, remains clear and distinct. These paintings are of exactly the same technique as those found in the caves of Altamira in Southern Spain, which suggests that there is a link between the primitive inhabitants of Africa and Southern Europe at a time when there was probably a land bridge between Africa and Europe. In the same part of the Iramba plateau were discovered a number of stone implements.

A negroid race, a black-skinned, woolly-haired, prognathous people, speaking a monosyllabic language, are believed to have migrated from southern Asia about the commencement of the pluvial age and to have overrun north and east Central Africa. It is probable that they were armed with bows and arrows, had wooden implements, and brought with them the banana and colacasia. It is also probable that these people, whose descendants are the negroes living in the Sudan from the Upper Nile to the Atlantic, were acquainted with and introduced the drum-signals, secret societies and mask dances which are met with in West Africa at the present day. So far as is known, there are only a couple of isolated tribes representing the Sudanic negroes in Tanganyika Territory, the Mbugu in the Usambara Hills, and the Gaya, near Shirati on Lake Nyanza; but ethnographical remains of them have survived amongst the Zaramo behind Dar es Salaam, and in the Uluguru Hills.

In the wake of the negroes from south Asia came the Proto-

Hamites, also from Asia, but from a more northerly and westerly direction. They were a people whose language was probably agglutinative, that is to say, the syntax was formed by adding prefixes and suffixes to the root. It comprised numerous noun classes, and was generally of a more advanced character than the monosyllabic tongue of the negroes. The Proto-Hamites brought with them the goat and the dog, and they introduced sorghum and other grains. These people mixed with the negroes and produced the earlier Bantu races, which are represented in Tanganyika Territory by the Nyamwezi (with subdivisions Sukuma, Sumbwa, Winsa, Fipa, Konongo and Kimbu, etc.), and by the Sangu, Hehe, Bena, Kinga, Matengo, Nindi, Makonde, Mwera, Ngindo, Sagara, Zaramo, Zigua, Shambaa and others. Unlike the word negro, the name Bantu refers primarily to language, not to physique, and the most interesting point about these people is the distribution of their language over a vast area reaching from Cape Colony to Kenya and the Cameroons. Whereas the negroes do not form a unit linguistically, but speak the most diverse tongues, which are probably to be numbered by hundreds, the Bantu languages all belong to one family and exhibit less difference than do the various Aryan languages among themselves. Professor Meinhof distinguished two hundred and sixty-four negro or Sudanic languages and one hundred and fourteen dialects, and one hundred and eighty-two Bantu languages and one hundred and nineteen dialects. Sir Harry Johnston illustrated two hundred and seventy-six Bantu languages and dialects.

Following on the Proto-Hamites the light-coloured Hamites migrated to Africa in the course of untold ages, some via Suez and others via Bab-el-Mandeb, the first of these migrations being at least seven thousand years ago. The name Hamite is primarily applied to the group of languages of which ancient Egyptian is the most conspicuous representative, and which are notable for the inclusion of a grammatical gender and an article. The majority of these wanderers, who generally preferred a semi-nomadic life and cattle-herding to a settled existence in towns and agriculture, spread along North Africa, whilst others pressed south, one group going to the extreme

end of the continent, and, mixing with the Bushmen pygmies, formed the Hottentots. Other groups intermarried with the earlier settlers, their descendants being now known as the Younger Bantus and the Central Bantus. The most notable of the former in the Tanganyika Territory are the Chaga of Kilimanjaro, the Arusha, Pare, Digo, Kaguru, Gogo, Nyaturu, Irangi, Iramba and Mbugwe; and of the latter, who have a considerable admixture of Nilotic or negro blood, are the Shashi, Zoba and Ruri, inhabiting the south-eastern shores of Lake Nyanza, and the Ha, Suwi, Sinza and Siba, etc., stretching from Ujiji to Bukoba. Others again, who are less mixed with the former inhabitants, are the tribes allied to the Nandi of Kenya Colony, represented in Tanganyika by the Dorobo, Tatoga, Mbulu, Fiome, Burunge, Ngomvia, etc., inhabiting mostly the barren Rift Valley; the royal and superior caste of the Hima or Huma and the Tusi, living on or near the western shores of Lake Nyanza, whose features present a distinct physical type resembling the faces seen on ancient Egyptian monuments; and the Masai, who were pushed south by the Nilotic tribes and migrated from their home between Lake Rudolph and the Nile to Kenya Colony and Tanganyika Territory a couple of centuries ago.

The early Hamites introduced into Africa the ox and the fat-tailed sheep; they mostly had bee-hive shaped huts; they possessed spears and shields, and they used hides as coverings.

Whilst during the last century the Masai were pushing south, sweeping all before them as far as Ugogo and Usagara, the Zulu peoples from south of the Zambesi (who in the sixteenth century had burnt and sacked most of the towns on the East African coast to Mombasa, where they were defeated by the Portuguese) penetrated into, and occupied portions of, what is now Tanganyika Territory. Like the Masai, the Zulu tribes were cattle-rearers, but they were also slave-hunters, and were known to the East African natives as Wagwangwara, "the dreaded ones". They plundered the area north of the Rovuma; they conquered and settled in the country east of Lake Nyasa as far as Mahenge, and they penetrated right up to Lake Nyanza, where a small group of them, known as the Tuta, live in the Sumbwa country to the present day.



A MASAI "MORAN"

The Masai and Zulus never came to close grips, owing to German intervention. It is perhaps of interest to note that some Bantu tribes in the north, impressed by the successes of the Masai, adopted their weapons and customs, whilst some of those in the south, such as the Wahehe of Iringa and Mahenge, aped the Zulus and, armed with assegais, plundered their neighbours.

A peaceful migration, which has been taking place for some years, is that of the Bantu Yao and Makua, who are crossing from Portuguese East Africa to Tanganyika Territory and settling among the Donde and Makonde on the north bank of the Rovuma River. A similar migration, but on a much smaller scale, has also occurred in the north of the Territory, a few Kamba, Taita and Nyika having left their homes in Kenya Colony and settled amongst various tribes in Tanganyika. The largest of these colonies is near Dar es Salaam, some Kamba having wandered as far south as this during a time of famine. One of the clans of the Nyamwezi are called Bakamba, and their tradition has it that they hailed from near Mombasa and are an offshoot of the Kenya Wakamba, a hint as to the composite nature of what would at first sight appear to be a pure homogeneous tribe.

The census of 1928 showed that there were one hundred and nineteen different tribes in the Territory, but of these fourteen represent half the entire population, while the Sukuma and Nyamwezi tribes account for a fifth.

The principal tribes, in order of numerical strength, are shown in the table on page 38.

Principal
tribes.

As has already been stated, the majority of tribes in the Territory belong to what is known as the Bantu-speaking races, the name Bantu having been given to that family of languages by Dr. W. H. I. Bleek, the famous philologist of South Africa, whose *Comparative Grammar of South African Languages*, published in 1862, is the foundation of the research since made in the Bantu tongues. The term 'Bantu' was chosen because it is the word used in one form or another to denote 'people' or 'mankind' practically throughout the whole of Southern Africa by those tribes which are descended from the negroid invaders from the north-west of the

The Bantu
language.

continent some three thousand years ago. The exact birth-place of the mother tongue is unknown, but the creation of the Bantu type of language was certainly more ancient than the exodus from the Bantu motherland. Its nearest relations are the languages of Northern Togoland, the Berune River, Cala-

Tribes.	Number.	Locality.
Sukuma . .	569,000	The Mwanza Province and the Shinyanga District of the Tabora Province.
Nyamwezi . .	399,000	The Tabora Province.
Gogo . .	166,000	The Dodoma District of the Central Province.
Chaga . .	143,000	The Moshi District of the Northern Province.
Turu . .	139,000	The Singida District of the Central Province.
Ha . . .	137,000	The Kasulu and Kibondo Districts of the Kigoma Province.
Makonde . .	122,000	The Mikindani and Lindi Districts of the Lindi Province.
Irangi . .	120,000	The Kondoa District of the Central Province.
Zaramo . .	117,000	The Dar es Salaam and Bagamoyo Districts of the Eastern Province.
Zinza . .	93,000	The Biharamulo District of the Bukoba Province, and the Mwanza District of the Mwanza Province.
Nyakusa . .	83,000	The Rungwe District of the Iringa Province.
Iramba . .	83,000	The Singida District of the Central Province.
Luguru . .	80,000	The Morogoro District of the Eastern Province.
Bena . .	74,000	The Njombe District of the Iringa Province.
Hehe . .	73,000	The Iringa District of the Iringa Province.
Ngoni . .	73,000	The Songea District of the Mahenge Province.

bar and the Gold Coast, and it is possible that the ancient Hamite or Nilotic conquerors may have adopted some form of speech prevalent in that region and cast it into the type which is now known as Bantu. Pushing southwards from the Nile and Congo basins, the invaders migrated and spread until they occupied the area in which their descendants now reside, and the original Bantu tongue has become split up into hundreds of more or less separate languages and dialects.

Some of the languages are very similar to each other, but others, owing to incorporation of features from the languages of inhabitants of the country who preceded the Bantu, the development of different phonetic laws and to other reasons, differ widely—so much so that neighbouring tribes may only understand each other with difficulty, and sometimes not at all until they have mixed with them for some little time. The grammatical structure, however, is fundamentally the same, and a considerable number of words in common use, denoting common objects and actions, can be traced to common roots.

The following books are recommended for those who wish to make a study of the Bantu language:

The Bantu Languages. Dr. WERNER. Published by Kegan Paul, Trübner & Co., Ltd., London.

Language Families of Africa. Dr. WERNER. Published by Kegan Paul, Trübner & Co., Ltd., London.

Comparative Bantu (two volumes). Sir H. H. JOHNSTON. Clarendon Press.

The article under "Bantu" in the *Encyclopaedia Britannica*.

Living Speech in Central and South Africa. A. C. MADAN. Clarendon Press.

A Sketch of Modern Languages of Africa. R. N. CUST. Trübner & Co., Ltd., London.

Grundriss einer Lautlehre der Bantusprachen. Professor C. MEINHOFF.

Grundzüge einer vergleichenden Grammatik der Bantusprachen. Professor C. MEINHOFF.

Neuere Ur-Bantu Wortstämme. WALTER BOURQUIN.

Dietrich
Reimer
(Ernst
Vohsen),
Berlin.

Although there are over one hundred native languages Swahili. spoken in the Territory, there is, fortunately, a *lingua franca* in Swahili, which is essentially a Bantu language in grammatical structure, syntax and a larger part of its vocabulary, though it has been enriched by the infiltration of words from Arabic and, in a smaller degree, from Hindustani, Persian, Portuguese and, in more recent years, English. It is not the language of any particular tribe, as are the other languages of the Territory, but it is the Bantu language or languages of the coastal belt influenced by contact with foreign, chiefly Arab, occupation. Its grammar being purely African, the

form of every sentence or expression is recognised at once as familiar by the native, even if the actual words are strange to him, while on the other hand the grammar has been simplified to suit the foreigner, mainly, again, the Arab of the coast, which makes it easier to learn. The pronunciation of Swahili is extremely easy, the vowels being pronounced as in Italian, the consonants being much like those of English, and it is absolutely phonetic. The accent is always on the penultimate syllable of the word.

Swahili is spoken and understood more or less over the whole country, and, in fact, throughout the whole of east Central Africa from Cape Delgado to the Somali Coast and inland as far as the Belgian Congo. Madagascar and Southern Arabia know it. Islands, so to speak, of Swahili-speaking natives are found far to the west of the great lakes and it is understood, here and there, along the course of the Congo down to the Atlantic Ocean. It has been estimated that Swahili is known over an area populated by nearly fifteen million people, and it has been ranked among the twelve most important languages of the world. The reason for its extraordinary range is a simple one. Before the partition of Africa took place, Zanzibar was the door through which passed all commerce and communication between East and Central Africa and the outer world. Swahili, as the language of Zanzibar, was the language of trade and penetrated everywhere on the lines of the trade-routes which radiated from and converged on Zanzibar, while it possessed the added prestige of being the vehicle of Arab ideas and civilization. The result is that persons acquainted with Swahili can make their way in most parts of the Territory and may count on finding in almost any village some at least by whom they would be understood.

There are several dialects of Swahili, but the form spoken in Zanzibar, namely, "Kiunguja", is the most widely known and has been adopted by the Governments of Tanganyika Territory, Kenya Colony, Uganda and Zanzibar as the standard dialect for literature.

The late Bishop Steere, of the Universities Mission to Central Africa, and the late Dr. Krapf, of the Church Mission-

ary Society, laid the foundations for the study of Swahili by Europeans, and Steere's *Swahili Exercises* and *Handbook of the Swahili Language*, published in 1870, are still the standard works. Krapf's dictionary published in 1881 contains a mine of information, both on the meanings and derivations of words and also on the various native customs. Madan's English-Swahili and Swahili-English dictionaries are the standard dictionaries for English people. Gradually a literature is growing up in Swahili, and the formation of an inter-territorial publication committee to standardize publications, with representatives from the Tanganyika Territory, Kenya Colony, Uganda and Zanzibar, should do much to increase the number and value of books.

CHAPTER IV

HISTORY

(a) HISTORICAL SUMMARY OF EVENTS

- 1505. Foundation of Kilwa port by the Portuguese.
- 1585. Portuguese settlements on the coast raided by a Turkish corsair.
Defeat of the Turks by the Portuguese in alliance with the Zimbabwes, a tribe of Zulus from south of the Zambezi.
- 1587. Sack of Kilwa by the Zimbabwes, and subsequent defeat of the Zimbabwes by the Portuguese.
- 1698. Capture of Mombasa and occupation of the mainland by Muscat Arabs.
- 1832. Sultan Said of Muscat transfers his capital from Muscat to Zanzibar.
- 1832-1840. Extension of Sultan Said's rule on the mainland.
- 1844. The first German firm established in Zanzibar.
- 1845. Foundation of the Arab settlement of Ujiji on Lake Tanganyika.
- 1848. Johannes Rebmann discovers Kilimanjaro.
- 1852. Foundation of an Arab settlement at Tabora.
- 1856. Death of Sultan Said.
- 1858. Burton and Speke discover Lake Tanganyika.
Speke sights Lake Nyanza.
- 1861. Baron von der Decken visits and explores Kilimanjaro.
- 1861-1862. Speke's second expedition to Lake Nyanza and discovery of the source of the Nile.
- 1862. Independence of Zanzibar recognized by Great Britain and France.
- 1866. Livingstone starts from Zanzibar and Mikindani on his last great journey to the interior.
- 1870. Death of Sultan Said Majid and succession of Sultan Bargash.

1871. Stanley's relief expedition in search of Livingstone lands at Bagamoyo.
Stanley meets Livingstone at Ujiji.
1873. Livingstone dies in Northern Rhodesia.
Expedition in charge of Lieutenant Lovett Cameron, R.N., starts from Bagamoyo for the Congo and visits Lake Tanganyika.
1877. Lease of the mainland offered by Sultan Bargash to Sir William Mackinnon.
Captain James Elton traverses the southern highlands and dies at Manyoni in Ugogo.
1878. The first Roman Catholic missionaries reach Tabora.
1884. Foundation of the German Colonization Society by Dr. Karl Peters.
4th November. Expedition of Dr. Peters starts from Bagamoyo and concludes treaties with the native chiefs.
1885. 17th February. Imperial Charter of Protection granted to the German Colonization Society by the German Government, and the sovereign powers surrendered by the native chiefs placed under Imperial protection.
1886. November. International Agreement concluded at London defines the limits of the possessions of the Sultan of Zanzibar. Germany recognizes the independence of Zanzibar.
1887. March. The German East Africa Company incorporated by Imperial Charter.
1888. 22nd April. The Company concludes an agreement with the Sultan for a fifty years' lease of the coast-line.
September. German officials take over the administration of the coast-belt.
- 1888-1889. Arab rising on the coast.
1889. 22nd October. German Protectorate proclaimed over German East Africa.
Dar es Salaam becomes a garrison town.
1890. 1st July. Anglo-German Agreement defines the sphere of influence of the two Powers in East Africa.
28th October. The Sultan of Zanzibar cedes the lease of the mainland to Germany.
1891. 1st January. The Imperial Government takes over the Territory from the German East Africa Company.
First Governor of German East Africa appointed. Dar es Salaam becomes the seat of the Government.

1891. The Tanga Railway commenced.
German expedition against the Wahehe repulsed.
1892. Operations against the Wachagga round Kilimanjaro and against the Wanyamwezi at Tabora.
1894. Second expedition against the Wahehe.
1897. Hut tax first imposed.
1900. Steamer launched on Lake Tanganyika.
1902. Tanga Railway reaches Korogwe.
1904. Tanga Railway reaches Mombo.
1905. Central Railway commenced.
- 1905-1906. The Maji-Maji rebellion.
1907. Visit of Herr Dernburg to the Protectorate and reorganization of the administration.
1908. Central Railway reaches Morogoro.
1909. Central Railway reaches Kilosa.
1910. Boundary Protocol between Great Britain, Germany and Belgium.
1911. Tanga Railway reaches Moshi.
1912. Central Railway reaches Tabora.
1914. Central Railway reaches Kigoma.
4th August. Outbreak of the European War.
25th September. H.M.S. *Pegasus* destroyed by the German cruiser *Königsberg*.
4th November. Defeat of British forces at Tanga.
1915. June. Bukoba captured.
July. *Königsberg* destroyed in the Rufiji Delta.
1916. February. General Smuts assumes command of the British Forces.
March. German forces driven back from Taveta and Moshi.
April. Kondoia Irangi captured by General van Deventer.
May. The Belgian forces occupy Ruanda.
June-August. All the country north of the Central Railway occupied.
4th September. Dar es Salaam occupied.
19th September. Tabora captured by the Belgians.
11th December. Mr. Byatt (now Sir Horace Byatt, G.C.M.G.), first Administrator of the Occupied Territory, arrives and establishes Civil Headquarters at Wilhelmstal (now Lushoto).
22nd December. Proclamation issued establishing Civil Administration throughout most of the Territory north of the Central Railway.

1918. 1st March. Civil Administration extended by further Proclamation.
11th November. Armistice declared.
1919. 21st January. Proclamation issued extending Civil Administration over the whole Territory except Kigoma, which remained under Belgian occupation.
31st January. Royal Commission issued appointing Sir Horace Byatt Administrator.
12th February. Headquarters of Government transferred to Dar es Salaam.
1920. 10th January. German East Africa renamed Tanganyika Territory.
22nd July. Order-in-Council issued constituting the office of Governor and Commander-in-Chief.
6th August. Royal Commission issued appointing Sir Horace Byatt to be Governor and Commander-in-Chief.
1921. 22nd March. Kigoma District handed over by the Belgians.
1924. 5th August. Protocol signed between Great Britain and Belgium demarcating the boundary between Tanganyika and Ruanda-Urundi.
5th September. Sir Donald Cameron, K.B.E., appointed Governor and Commander-in-Chief.
1926. 19th March. Order-in-Council issued constituting a Legislative Council.
7th December. Meeting of the first Legislative Council of Tanganyika.
1928. 15th August. Tabora-Mwanza Railway opened to traffic.
1929. 13th December. Moshi-Arusha Railway opened to traffic.

(b) EARLY DAYS

There has existed on the coast of East Africa an ancient civilization from very early times. It is known that the natives of East Africa had trade connexions with Arabia and India before the beginning of the Christian era, and that there was a regular migration of Himyarites from South Arabia to South Africa, who worked gold mines and possibly built Zimbabwe and other ruins in Rhodesia. It is also probable that such localities as the Lamu archipelago, Mombasa, Tanga, Pangani, Dar es Salaam and Kilwa, which offer obvious advantages as ports, were repeatedly occupied before the oldest civilization of which there is any record.

The Greek geographer Ptolemy (about A.D. 150) gives some account of East Africa as then known. He calls the country Azania and speaks of the promontory of Zingis. An earlier description of the East African littoral is to be found in the *Periplus of the Erythraean Sea*, where reference is made to the island of Menouthias and to a town called Rhapta. The former was either Zanzibar or Pemba; the latter is thought to be either Pangani or a town in the delta of the Rufiji River.

Active colonization by Arabs from Oman appears to have begun in the eighth century A.D. as a result of the spread of Islam, but it is possible that settlers arrived from both Arabia and Persia some three centuries earlier, though there is no detailed information respecting this movement. Whether the Arabs were preceded or followed by the Persians is uncertain, but the presence of true Persians on the East African coast has been established by the discovery of Persian inscriptions and coins and of ruins of Persian architecture.

There is a fair amount of tradition, if not of accurate detail, respecting the colonization of the coast in the tenth and following centuries of the Christian era; but the history of this period is for the most part a record of complicated quarrels neither easy nor interesting to recount.

The oldest known town in Tanganyika Territory is Kilwa-Kisiwani (Kilwa-on-the-island), the Arabic chronicles of which were published in the *Journal of the Royal Asiatic Society* for 1895 (another version can be found in Barros, *Da Asia*, Lisbon, 1778). This Persian town was founded, probably upon a far older site, by a son of the King of Shiraz about the year A.D. 975, and the ruins of two mosques, which, according to tradition, were built at the end of the twelfth century, are still visible.

The Arabian and Persian colonies in East Africa are said to have reached the height of their prosperity between A.D. 1100 and 1300. That the towns enjoyed a considerable degree of prosperity and civilization is recorded by Ubn Batuta, the Arabic geographer, who visited Mogdishu, Mombasa and Kilwa in 1328.

It is perhaps of interest to mention that the Chinese, attracted by the ivory, gold, tortoise-shell, ambergris and

slaves exported from these shores, dispatched fleets on several occasions to East Africa, the last-known visit occurring in 1430. Chinese coins dating between A.D. 713 and 1201 have been found at Kilwa and Mogdishu.

The authentic history of East Africa can be said to commence in 1498 when the first Portuguese expedition under Vasco da Gama sailed along this coast on its way to India. The Portuguese found on their arrival a series of independent towns, peopled by Arabs, but not united to Arabia by any political tie. Their relations with these Arabs were mostly hostile, but during the sixteenth century they firmly established their power and ruled with the aid of tributary Arab sultans.

Towards the end of the sixteenth century two new, though only transitory, powers made their appearance and played their part in harrying the coast towns, the Turks and the Zimbos. A Turkish corsair in 1585 ejected the Portuguese from most of their settlements, but was eventually defeated by the Portuguese, who allied themselves to the Zimbos, a tribe of Zulus from south of the Zambesi. After the defeat of the Turks, the Portuguese, with the aid of the tribe of Segeju, proceeded to make war on the Zimbos, whom they entirely overthrew.

The Portuguese rule, however, rested always on rather weak foundations, and the Arabs of Oman and Muscat succeeded in throwing them out of Oman in 1650, and proceeded to attack them in Africa. Between 1660 and 1700 there was much warfare and burning of towns, but the advantage remained with the Arabs, who captured Mombasa in 1698, after a siege lasting thirty-three months, and then occupied Pemba, Zanzibar and Kilwa, driving the Portuguese out of practically all their East African possessions except Mozambique. This marks the real downfall of the Portuguese power north of Mozambique, but it was reasserted from 1727 to 1729, when they were driven out for the last time, a fleet dispatched by the Portuguese authorities in India to their assistance being destroyed by a hurricane.

The traces of the Portuguese occupation of the East African coast are very small and consist mainly of a few buildings and

the presence of numerous Goans whom the long-standing connexion with Goa has brought over to Zanzibar and the mainland. There is no proof whatever that they penetrated inland, though they had heard of Kilimanjaro, and they appear merely to have held a series of ports to facilitate their voyages to India.

Except the Portuguese attempt at reoccupation mentioned above, little of moment occurred on the coast of East Africa during the eighteenth century. The tie which connected the East African colonies with the distant court of Muscat was a weak one, and the supremacy of the Imam of Oman, as his name implied, was mainly spiritual. The allegiance to Muscat became more and more shadowy till about 1740, when the Mazrui Governor of Mombasa and the Nabahan King of Pate declared themselves independent and proceeded to fight with one another for the supremacy of the coast. This declaration of independence was probably connected with a revolution in Oman when the Yorubi were replaced as the ruling family by the Bu Saidi from whom the present Sultans of Zanzibar are descended. For nearly a hundred years the Bu Saidi did not trouble much more than the Yorubi had done about their African possessions, until Said bin Sultan, the fifth of the line, transferred his capital in 1832 from Muscat to Zanzibar, which until then had played a comparatively small part in the history of the coast.

The removal of his capital from Muscat to Zanzibar was pregnant with results for the East African littoral, as the Sultan was enabled at once to escape from the weakening effects of the internal dissensions of Oman, while the geographical position of Zanzibar marked it out as a natural trade centre for the scattered settlements on the coast. The activities of Sultan Said resulted in the establishment of his authority over the whole of what is now the coast of Kenya and Tanganyika. The clove, the chief source of the prosperity of Zanzibar to-day, was introduced by him into the island and trade increased, stimulated by the immigration to the coastal belt of numbers of Indians, who were not only traders but small capitalists who financed the Arabs in the journeys into the interior.

Although his capital had been established in Zanzibar, Sultan Said until his death remained ruler of Muscat, an arrangement which was inconvenient on account of the distance which separated him from his Asiatic possessions and on account of the diversity of problems with which the two portions of his dominions were faced. He, therefore, bequeathed the Asiatic possessions to Thuwainy, his eldest son, leaving Zanzibar to the younger, Majid. The former, however, was dissatisfied with his portion and trouble would undoubtedly have ensued had not the brothers agreed to submit their case to arbitration by the then Governor-General of India, Lord Canning. The Governor-General upheld the validity of the late Sultan's bequest, but directed the ruler of Zanzibar to pay an annual tribute to his brother of Muscat as compensation.

In 1862 the independence of Zanzibar was recognised by an Agreement signed both by Great Britain and France, but from this time forward British influence at the court of Zanzibar, represented by Sir John Kirk, who became Consul-General in 1873, steadily established its ascendancy—so much so that in 1877 Sir William Mackinnon, of the British India Steam Navigation Company, who had considerable interests in the East African littoral, was asked by Sultan Bargash (successor to and brother of Sultan Majid) to accept a lease for seventy years of the customs and administration of all the Sultan's dominions, with certain reservations as to his own sovereign rights over the islands of Zanzibar and Pemba. The British Foreign Office, however, were not prepared to accord support and Sir William Mackinnon was compelled to decline.

Up to this point this chapter has concerned itself only with the East African littoral, as after the failure of the Portuguese to maintain their supremacy on the coast, the interior of Central Africa held little interest for the European Powers who were engaged up to the beginning of the nineteenth century in almost constant warfare. Maps of the interior of the continent were blank except for pictures of palm trees, elephants and savages which served the dual purpose of decoration and of concealing the ignorance of the cartographers. The only physical features which recurred were the

Nile, whose course followed the geographer's imagination, and the Mountains of the Moon, which were located in Ptolemy's map with more accuracy than in those of other mapmakers for the greater part of the next two thousand years.

The nineteenth century, however, saw a great revival of European interest in Africa. Humanitarian tendencies which resulted in the suppression of the slave trade and the establishment of Christian missions, the progress of science which created a desire for knowledge of the unexplored portions of the earth, and, not least, the industrial revolution which looked hungrily for new markets, all, in turn, played their part in the discovery of the great African continent. In 1857 Speke, who had already acquired a reputation as an explorer, having penetrated Tibet and accompanied Burton to the interior of Somaliland, joined the latter in an attempt to verify the stories of the existence of great lakes in the heart of the continent. Starting from Zanzibar and from Bagamoyo on the coast and journeying by the caravan route through Unyamwezi, they reached Lake Tanganyika in January, 1858. Returning to Unyamwezi, where he left Burton, who was sick, Speke journeyed north again alone and discovered Lake Nyanza, which he believed to be the source of the Nile. Both Burton and a section of the public were sceptical of his theories, so Speke returned in 1861 with Captain Grant as a companion and again made the journey to the lake, coming upon it at its south-western corner, which was named after him and is known to-day as Speke Sound. From there he made his way by the western shore into Uganda, and in July, 1862, after considerable difficulties with Mutesa, King of Uganda, found himself at the point where the Nile issues from the lake. In 1866 Livingstone arrived at Zanzibar on his last great journey, and starting from Mikindani followed the course of the Rovuma through what is now Portuguese East Africa to Lake Nyasa, and thence proceeded in a north-westerly direction to Lake Tanganyika. After exploring much country hitherto unknown, he reached Ujiji, an Arab settlement on the lake and a centre of the slave trade, in March, 1869. Silence, long enforced by the failure of his letters to reach



**RUINS OF THE HOUSE NEAR TABORA WHERE LIVINGSTONE AND
STANLEY LIVED, WITH MONUMENT ON THE RIGHT**



**THE GRAVE OF ELTON, THE EXPLORER, WHO DIED AT MANYONI
IN DECEMBER, 1877**

England, gave rise to stories of his death and in 1871 Stanley set out in search of him, financed by Gordon Bennett of the *New York Herald*. However altruistic the intention of the supporters of the expedition, it was meant and could not fail to attract publicity. Stanley's dispatches provided good copy for the press, and the story of his meeting with Livingstone at Ujiji became world famous. The publication of Livingstone's accounts of the slave trade aroused the greatest indignation in England, stimulating public interest in missionary enterprise in Central Africa, while the epic of his death and of the long last journey to the coast touched the imagination in a way that fresh discoveries could not have done. "I have opened the door," Livingstone had said to a meeting of Cambridge undergraduates; "I leave it to you to see that no one closes it." Amongst others who contributed to the world's knowledge of East and Central Africa between the seventies and eighties of the last century was Lieutenant (later Commander) Lovett Cameron, R.N., who was in charge of the expedition sent out by the Royal Geographical Society in 1873 to the relief of Livingstone. On reaching East Africa Cameron heard the news of Livingstone's death, but pushed on to Lake Tanganyika, which he mapped accurately for the first time. Another name now almost forgotten is that of James Elton, an officer in the Indian Army, who was appointed vice-consul at Zanzibar in 1873 and later was posted to Mozambique. In 1877 he journeyed through Nyasaland from the Portuguese coast and explored the north end of Lake Nyasa in the small steamer belonging to the Livingstonia Mission, climbed the Konde Mountains and gave his name to the Elton Pass and Plateau near Mount Rungwe in the southern highlands. Returning to the coast, which he proposed to strike at Bagamoyo, he fell ill and died in December, 1877, at the early age of thirty-seven. His bones were laid to rest at the foot of a great baobab tree in the Ugogo country, and his grave, carefully tended by the local natives, remains to-day a monument to one of the first Englishmen to cross the interior.

In 1878 the Royal Geographical Society sent out a further expedition to East and Central Africa under the leadership of Keith Johnston, who died near Lake Nyasa in the following

year, and it was left to Joseph Thomson, a young geologist of twenty-one, to take over the command. He led the expedition across Uhehe and Ubenia to Lake Tanganyika, where, forced to retrace his steps, he turned to the southern end of the lake and discovered Lake Rukwa. Livingstone's discoveries and those of the explorers who succeeded him were followed by organized attempts on the part of religious and commercial bodies to open up the interior, and the Government at home could not have remained indifferent to these activities even had it desired to do so. "Her Majesty's Government", wrote Lord Salisbury, "and the British public are much interested in these settlements." Scientific and humanitarian purposes had led to the exploration of the Dark Continent, but now political and economic reasons entered the field, and nations whose consciences had stirred but slowly to the miseries of the slave trade, became wide awake when it seemed that their pockets might suffer from inaction. The scramble for Africa was not to be long delayed, and the Berlin Conference of 1885 laid down the rules of the game in which Germany was now to be a competitor.

(c) THE GERMAN OCCUPATION.¹

German scientific and geographical interest in East Africa started with the visits of Baron von der Decken, a Hanoverian army officer, who in October, 1860, made an unsuccessful attempt to reach Lake Nyasa. In the following year, accompanied by a Dr. Kersten, he reached and explored Kilimanjaro, which he climbed to a height of over 12,000 feet, thus confirming the accounts of the mountain which Rebmann had given to an unbelieving world thirteen years before. In 1865 he again returned to the East African coast with two steamers and numerous white companions with whom he endeavoured to explore the Juba River. He was shipwrecked and murdered, with some of his companions, by the Somalis. It was stated after his death that he had confided to one of his friends a scheme for the purchase of Mombasa from the Sultan of

¹ Note.—The Editor is indebted to the Hon. C. C. F. Dundas, O.B.E., for permission to quote from his pamphlet *A History of German East Africa*.

Zanzibar in order to form a German settlement on the East African Coast, but these disclosures excited no interest. By this time several Hamburg merchants had established houses in the prosperous island of Zanzibar, but their flourishing businesses claimed all their attention and politics do not seem to have entered their minds. In the meantime, however, others were establishing a foothold for themselves in Africa and it became apparent that if Germany delayed to enter the field she would be denied a place in the sun, and in the summer of 1884, Dr. Karl Peters, with the support of others, founded an association called the "Society for German Colonization", the object of the society being the acquisition of land for sale to colonists. With a capital of 65,000 marks it was first proposed to make the start in Brazil, but it was finally decided to adopt the suggestion of Dr. Karl Peters, who had from the first been in favour of Usagara in East Africa.

The plan was kept more or less secret until Dr. Peters sailed, accompanied by Dr. Juhlke, Count Pfeil and Mr. Otto, for the East Coast. On 4th November, 1884, the party, who had travelled as deck passengers and were dressed as mechanics, landed in Zanzibar, where they were officially discountenanced by the German Consul. But six days later the expedition started from Sadani, a coast town just north of Bagamoyo, and on the 23rd November a halt was made in Uluguru, where the first treaty with the chief of that place was concluded.

The mission then returned to the coast early in 1885, having concluded six agreements with the tribes, and Dr. Peters returned to Germany after an absence of four months. His achievements were somewhat ridiculed in Germany, sceptics pointing out that the treaties had little actual value since the chiefs had no power to give away their territory and were probably not aware of their commitments when, after receiving presents consisting of a variety of cheap trade goods, they signed or set their marks to agreements which they could neither read nor understand. Above all, it was contended that as the Society had no means of enforcing the terms of these agreements the natives were at liberty to fulfil them or not, as they pleased.

The first aim of Dr. Peters was to obtain official recognition of his acquisitions, and despite the flimsy claim he could lay to these and the scant interest which they aroused in Germany, he obtained, in February, 1885, an Imperial Charter of Protection whereby the agreements concluded with the chiefs were recognized and the sovereign powers said to have been surrendered by the chiefs were placed under Imperial protection.

The project, which first had borne the outward appearance of the private undertaking of a commercial enterprise, soon developed into a political and international affair of some magnitude.

As stated above, Great Britain and France had in 1862 guaranteed the independence of the Sultan of Zanzibar, but British influence had steadily increased, particularly when in 1873 Sir Bartle Frere had obtained the Sultan's agreement to the suppression of the slave traffic.

On the coast, and in the interior also, British missionary societies had been established, so that the intrusion of another foreign Power might perhaps have been regarded with suspicion. From the point of view of Zanzibar, claims to sovereignty over the coast and the interior had been put forward by Sultan Bargash, and his jurisdiction, if not effectual, was at any rate generally admitted; it was customary for travellers to obtain letters of introduction from the Sultan before proceeding into the interior, a course which Peters himself had adopted. At important centres the Sultan had appointed *Walis* as his governors; in numerous places he maintained garrisons, mostly small detachments of Baluchis, and in Mamboia, on the road from Sadani to Mpwapwa, the Sultan's general, Matthews, periodically resided at the fortified station. Tribute was also levied and paid to the Sultan's *Walis* by the chiefs of Usagara and elsewhere. While these claims to sovereignty in the hinterland were, frankly, of the most shadowy kind and could not be supported by effective occupation, the Sultan nevertheless believed in them and considered that his dominions extended to the interior. Germany's appearance in East Africa, therefore, came into conflict with the interests of Zanzibar, whose Sultan doubtless relied on

British co-operation in resisting it. On 25th April, 1885, the Sultan dispatched the following telegram to the German Emperor:

We have received from Consul-General Rohlf a copy of your Majesty's proclamation of the 27th February, according to which the countries Usagara, Ngura and Ukami, of which it is said that they lie west of our possessions, are placed under your protection and German rule. We protest against this, because these territories belong to us and we have military stations there, and the chiefs who offer to surrender rights of sovereignty to the agents of the Company are not empowered to do so; these places have belonged to us since the time of our fathers.

In support of his protest Sultan Bargash dispatched troops to Usagara, Witu and Chagga with the object of foiling the German occupation; but Prince Bismarck replied to his telegram in vigorous terms, whereupon the Sultan's troops were withdrawn.

British assistance, moreover, was not forthcoming, as Lord Granville at the Foreign Office, with other and more important diplomatic problems to solve, was disposed to adopt a friendly attitude towards German co-operation in "the extinction of the slave trade and in the commercial development of the Sultan's dominions". Sir John Kirk was therefore instructed to co-operate with the German representative and to give an assurance that Great Britain had no intention of thwarting Germany's plans for colonization. At the same time, Germany was induced to add her guarantee to that given by Great Britain and France in 1862 for the independence of the Sultan.

The new enterprise had now roused greater interest in Germany and, what was more important, considerable capital was subscribed. The concern developed in such a manner that a revision of its constitution became necessary and the Company was registered under the style of Karl Peters and Company (later the *Deutsche Ostafrikanische Gesellschaft*, or "The German East African Company") and under the management of Karl Peters. The latter considered that the first object was to bring extensive areas under the

Company's control, and the following areas were brought under the Company's rule within a short time:

The north coast of Somaliland from Kalule to Warsheikh, through Mr. Hornecke and Lieutenant Anderson, in September, 1885.

The coast of Somaliland at the mouth of the Wubushi River, through Dr. Jühlke, Lieutenants Günther and Jancke, in the autumn of 1886.

The country north and south of the Sabaki River, through Lieutenant Anderson, in January, 1886.

Usambara, Pare and Chagga, through Dr. Jühlke and Lieutenant Kurt Weiss, in May, 1885.

Usaramo, through Lieutenants Schmidt and Söhne, in September, 1885.

Kutu, through Count Pfeil, in June, 1885.

Uhehe, Mahenge, Ubena and the country of the Wagindo between the Rufiji and Rovuma Rivers, through Count Pfeil, in November, 1885.

Matters had in the meantime gone so far that a settlement through diplomatic channels had become unavoidable and a joint commission was appointed by Great Britain, France and Germany to investigate the Sultan's claims on the mainland. This commission held that his possessions could not be said to extend over more than a coastal strip of ten miles wide, running from the Miningani River to Kipini at the mouth of the Tana River. At the same time the commission was prepared to recognize his sovereignty over Kismayu, Barawa, Murka and Mogdishu, with adjoining territory on the Somali coast. The report of the commission was adopted and embodied in an international Agreement concluded at London in November, 1886. Under the Agreement the spheres of interest of both Powers were defined and Great Britain undertook to support Germany in its relations with the Sultan, whose sovereignty over the islands of Zanzibar, Pemba, Lamu and Mafia was admitted.

The first difficulty which the German Company in its occupation of the coast had to face was the hostility of the Arabs. The latter were quite alive to the fact that European penetration into the hinterland must inevitably mean the

suppression of the slave trade and the abolition of the status of slavery itself.

To the British, in the occupation of their sphere of influence on the coast, the Arabs had shown little hostility. British influence had long predominated at Zanzibar. Conventions for the suppression of slavery had been concluded with successive Sultans as far back as 1847 and British gunboats had been active in searching for slave dhows in the Indian Ocean. Moreover, the interior of what was shortly to be known as British East Africa was practically a closed ground to Arab traders, who were daunted by the warlike reputation of the Masai, so that they had little to lose from the occupation of the interior by a European Power. But conditions in the German sphere of influence were different. Many of the Sultan's Arab Walis on the coast had achieved a virtual independence; the hinterland had been the source of slave supplies and the Arabs were firmly established at Tabora and Ujiji along the caravan route to the lake. To them Germany was a newcomer in the African field and while they were resigned to the British attitude towards slavery they were reluctant to submit without a struggle to German efforts directed in part to the same end. Sir Charles Euan Smith, who had succeeded Sir John Kirk as British Agent at Zanzibar, gave the Germans a friendly warning of the hostility they might expect unless great care for Arab susceptibilities was shown in replacing the Sultan's government on the coast, but the warning fell on deaf ears and, as will be seen, the first step in the occupation of the coast was marked by a somewhat tactless demonstration of the Company's intentions.

In Bushiri bin Salim, an Arab who had at one time served Sultan Majid of Zanzibar but had for long refused to recognize the authority of Bargash, his successor, the coastal Arabs found a daring and resourceful leader, and the first signs of trouble occurred at Pangani, an Arab stronghold on the coast opposite the island of Pemba. In 1888 the German Company had concluded an Agreement with Said Khalifa, who had succeeded Sultan Bargash in March of that year, whereby the administration of the coast from Tanga to the Rovuma was ceded to the Company for a term of fifty years. It was stipu-

lated, however, that the administration should be in the name of and under the flag of the Sultan, who was to receive a fixed rent, a share in the customs duties and certain interests in the Company. The Agreement, however, did not include the right of the Company to use their own flag also, and when they attempted to hoist the German flag alongside that of the Sultan's at Pangani they could only do so after the appearance of a man-of-war in the port. After her departure the disturbances broke out again and the presence of a detachment sent by the Sultan under command of General Matthews availed so little that the latter was obliged to leave Pangani. From this time on, the hostile Arab faction, with Bushiri bin Salim as their head, retained the upper hand.

In Bagamoyo similar disturbances took place at the hoisting of the flag and on 8th September, 1888, the revolt commenced in Tanga with the imprisoning of the Company's officials. Preparations were now made by the Germans for action on the coast; some seven thousand men were formed into a landing force and manœuvres were practised, but at the last moment the whole undertaking was cancelled and assistance was withheld by the German Government. Almost simultaneously with the disturbances in the northern coast districts the Yao tribe on the southern coast were induced by disaffected Arabs to attack the Germans. In September, 1888, they appeared at Mikindani, which the Germans were forced to evacuate, and then advanced to Lindi, where officials of the Company were very nearly captured. Before Kilwa the Yaos paraded in some thousands. The two Germans in the town were given forty-eight hours by the rebellious Arabs to leave the place, but refused to do so, feeling confident of assistance from their navy. As they held out in their house, besieged and subjected to a constant hail of bullets, the German gunboat *Moewe* suddenly appeared and the besieged, thinking themselves saved, declined to listen to the Yaos, who represented themselves as the true and original masters of the coast. With great difficulty they managed to signal to the *Moewe*, from which the powder smoke was plainly seen, but no sign was returned and the vessel lay for the whole day inactive. Next morning the *Moewe* was still there and at last she

signalled, but the besieged Germans were unable to reply, and shortly after the vessel steamed away, leaving them to their fate.

The only peaceful spot in the rebellion area had been Dar es Salaam, a place of little importance at that time, though Sultan Said Majid had appreciated the defensive character of this port and had conceived the plan of moving his residence there. A regular plan of the new town was prepared and thousands of slaves were transported to carry out the work, but when in 1871 Said Majid died, the only houses completed were two built by the Sultan close to the shore. A number of Indians had settled, but left when the rest of the town fell into ruin, and the building of a road into the interior, which had been undertaken by a British firm and was already constructed over a length of fifty miles, was stopped.

The inaction of the German fleet while German subjects were besieged and murdered undoubtedly encouraged the idea that overt opposition to the occupation could be carried on with impunity. From all sides numbers flocked to Bushiri, who moved in November with eight hundred armed followers to Bagamoyo and to other places where hostilities had shown a tendency to subside. New fuel was added to the flame of rebellion and mission stations, which until then had not been molested, were now attacked and destroyed and the missionaries murdered. In December a blockade was undertaken by Great Britain and Germany jointly, but with little effect except to increase the rebellious feeling among the Arabs, who, in turn, incited the natives to insurrection. Even Dar es Salaam was attacked and those of the Arabs who had hitherto remained loyal to the officer in charge went over to the enemy. The Lutheran Mission station on the seashore was attacked and the missionaries were only saved by the shell-fire of the *Moewe*, which drove away the hostile natives.

In the meantime, events in East Africa had roused attention and caused anxiety in the Reichstag, with the result that in January, 1888, two million marks were voted for the suppression of the slave trade and the safeguarding of German interests in East Africa. Hitherto, the occupation of East Africa had been entirely the private enterprise of the

Company, which had no force behind it except the occasional support of the half-trained soldiery of the Sultan of Zanzibar. The German Government recognized that this state of affairs could not continue, and that the lives of German subjects would have to be protected. They, therefore, appointed Hermann Wissmann as Imperial Commissioner and despatched to East Africa a staff of twenty German officers and doctors and forty non-commissioned officers. Wissmann's first effort was to raise troops, and for this purpose he decided to recruit Sudanese, of whom six hundred were enlisted. With these, Wissmann sailed to Aden, where their training was immediately undertaken, and from Aden to Bagamoyo, where, after six months, his recruits were considered to be sufficiently trained. To this nucleus of Sudanese were added two hundred Zulu soldiers recruited in Portuguese East Africa and twenty Turkish police. The artillery consisted of six pom-poms and twelve small field guns, besides a number of small quick-firing guns belonging to the Company. Five small steamers were also brought from Germany.

Pending the arrival of this force, an armistice had been concluded with Bushiri, and had been negotiated so as to hold good until the arrival of the Imperial Commissioner with reinforcements. Peace negotiations had even been discussed, but these Wissmann immediately terminated, saying that no negotiations with rebels could be considered. Bushiri in the meantime had fortified a position about six miles distant from Bagamoyo, where his forces were said to number two to three thousand Arabs and half-castes, besides a number of natives armed with weapons of all kinds, from cannon and breech-loaders to muzzle-loaders and spears. Hitherto Bushiri had been chivalrous in his methods of warfare and had treated his captives with courtesy and attention, but from this time onward he perpetrated various acts of cruelty and his attitude towards the Germans became bitter and implacable. Possibly he knew that he was pursuing a forlorn hope, or possibly he realized that he had been duped by the armistice negotiations, which had allowed the Germans to improve their position. But, whatever the cause of his change of front, he relaxed all control over his supporters, who looted and

murdered without restraint. In April, 1889, after Bushiri had attacked and sacked the village of Kaule in the immediate vicinity of Bagamoyo, Wissmann's men prepared to attack his stronghold and did so in the following month. The attack lasted for several hours, and though it cost the Germans some casualties, it was entirely successful; the fort was taken and two old cannon, besides a number of rifles, were captured. The Arabs and their followers, among whom were always a number of Baluchis, fled, Bushiri with them; but though many forsook him after this defeat, he nevertheless fortified himself again some forty miles further inland.

In Bagamoyo conditions became normal again and the natives in the vicinity of Dar es Salaam expressed their desire for peace. Their submission was accepted on condition that they broke with Bushiri, a condition which they had the sense to observe, and no further trouble was experienced in this area.

On 6th July Sadani and Urindji were attacked by Wissmann in conjunction with the navy and were completely destroyed. A few days later Pangani was attacked, and the rebels there were defeated and scattered, an operation which had far-reaching effects as the place was then the centre of Arab opposition and was considered by them to be impregnable. Operations were next undertaken against Tanga. A naval squadron had arrived on 12th June and an unconditional surrender was demanded, but as the Arabs declined to give an immediate reply, a landing party was sent ashore on the following day and cleared the town of the rebels. Having restored order in Tanga, Wissmann undertook an inspection of all the coast places. The country from Bagamoyo inland was gradually reduced to submission, and the natives, so far from showing any inclination to oppose the troops, fled at the sight of a soldier or a European. Bushiri's attempts to stay in the neighbourhood and to recruit followers failed entirely, and his power was so reduced that he was unable even to hold up the caravans of Wanyamwezi, which had hitherto proved an easy prey. Nevertheless, he was not yet defeated and his forces attempted even at this time to capture the Europeans at the French Mission station of

Simea; but the missionaries were able to escape and sought safety with Chief Kingo of Morogoro, a man of considerable influence, whom Bushiri had in vain tried to win for his cause. Next, Bushiri turned to Mpwapwa, where there was a station of the Company. A punitive expedition was led by Wissmann to Mpwapwa, but nothing was achieved as the enemy was not encountered. A new station was built, however, and, leaving a garrison there, Wissmann returned to the coast.

In the meantime Bushiri was said to have gone southwards and to have entered into blood brotherhood with the warlike Wahehe, and refugees from the south came in bringing most alarmist reports of ferocious hordes approaching in a northerly direction. Owing to the absence of troops on the coast at that time the situation was critical and Bushiri chose the middle of October to appear with his followers and encamp about six hours' march from Bagamoyo. His forces consisted of five or six thousand so-called Mafiti, or Masitu, a tribe related to the Yaos and an offshoot of the Kaffir tribes to the west of Lake Nyasa which, in consequence of internal troubles, had separated from the main tribe and wandered, plundering and marauding, northwards and eastwards, driving before them the Wahenge, Wahehe and others. The tribes which they had scattered became infected with their ferocity and predatory example so that the name Masitu came to be generally applied to them also. Of these so-called Masitu were Bushiri's forces composed and the terror which they spread was such that a general panic would have ensued but for the resolute and energetic measures adopted by von Gravenreuth, the German Commandant. All available troops from the north were withdrawn to Dar es Salaam, whence von Gravenreuth decided to attack Bushiri with one hundred and twenty men. Von Behr was sent to the south to clear the country, where burning villages could be seen, but he had not marched far when he came upon the whole of the Masitu forces encamped in a valley. Contrary to his orders he immediately proceeded to attack the unsuspecting enemy. The Masitu at once charged but were brought to a stand before the rapid fire into their massed ranks. Though checked, they were by no means cowed, and the situation had become critical when von Behr was reinforced by von Graven-

reuth, who had heard the firing, and with this addition to his forces was able to rout the Masitu. On the further side of the valley, Bushiri and his Arabs could be plainly seen making desperate endeavours to rally the natives, which for a moment they succeeded in doing, but again the Masitu broke and fled. Two hundred dead were counted, and though the German force was decimated the defeat of the enemy was complete. Indeed, so panic-stricken were the Masitu that even the timid Wazaramo pursued and practically exterminated them.

On the defeat of the Masitu, Bushiri fled with the remainder of his tribe; but mistrusting their feeling of resentment at their defeat, for which they blamed him, he fled to Usagara and disappeared until December, when the news was received that he had been captured in Kwamkoro. A detachment sent to bring him in found him starving and half naked in a hut. He was bound and led to Pangani, where he was hanged on 15th December, 1889. With Bushiri's death the last opposition of the Arabs subsided and the coast rebellion was suppressed.

THE PACIFICATION OF THE INTERIOR

While the rebellion had been most serious on the coast, the interior was not free from disturbance, though the stations established by the Company in the hinterland were comparatively secure and relations with the natives were often friendly. The Chagga country round Kilimanjaro was the first to which Wissmann devoted his attentions. Near Kilimanjaro there were a number of influential chiefs who had increased their power and organized their defences, among whom Mandara of Moshi was the best known and the most influential. There was, however, a rival aspirant to the kingship of the Chagga in the person of Sina, who was active in slave trading. Enlisting the support of Mandara, Wissmann with five hundred Sudanese and Zulu levies attacked Sina's strongly fortified headquarters, which, after hard fighting, were stormed and destroyed, though Sina himself escaped. Eventually he submitted and sent rich presents, and peace was concluded by

his agreement to surrender two districts to Mandara and to release the Chief of Uru, whom he had taken prisoner.

The effect of this success was considerable and many of the chiefs, who had regarded Sina as invincible, sent peace-offerings and messages of submission, messengers coming even from distant Arusha. The submission of the Waarusha was particularly fortunate as they were fortified in an impregnable forest and it was doubtful if Wissmann, whose ammunition would not have sufficed for any serious encounter, was in a position to deal with them.

Sina's defeat increased the power of Mandara, who was wise enough, however, to recognize that he was no match for the Germans, though after his death his son Meli, less patient of restraint, attempted to restore the position of his family. His effort to do so occasioned yet another expedition to Kilimanjaro. Meli was finally defeated in the summer of 1893, and his outbreak seems to have been the last real effort on the part of the Wachagga. They had offered more organized resistance than most other up-country tribes, but from being a peculiarly truculent people they soon changed to the most submissive of subjects. On the defeat of Sina, the Kilimanjaro station was fortified. Various minor encounters took place with the Masai, but the Germans never seem to have had serious trouble with them and no expedition of any strength was ever dispatched against this tribe.

After the suppression of the Arab revolt two minor expeditions were sent to put a stop to the continuous trouble stirred up by the Wasitu and Wahehe, but these led to no results and Lieutenant von Zelewsky, who had succeeded von Wissmann in command of the troops when the latter retired from the post of Imperial Commissioner, decided to inflict a lesson on these truculent people. About the middle of June, 1891, he left Kilwa with a force of a thousand men, but was surprised by the Wahehe in dense bush and was fortunate in being able to make his way to the coast without being annihilated. Even so, his casualties were heavy, as in this disastrous defeat the Germans lost ten Europeans, two hundred and fifty native soldiers, two hundred and fifty rifles and three guns, with ammunition. The Wahehe, emboldened by their success, con-

tinued to defy German attempts to penetrate their country, and, as will be seen later in this chapter, it was not until 1894 that this tribe was subdued.

About the same time trouble had broken out in another direction and for the first time with the Wanyamwezi natives of Tabora, the great trade centre of the interior. Tabora was ruled by the powerful chief Siki, whose residence, situated about three miles from the town, was a fortress of considerable strength. His army, too, was so well organized and armed that he was able completely to dominate the caravan route to the lake. Siki declined to enter into relations of any sort with the Europeans, and in April, 1892, his son attacked a German column passing his residence at Ipuli, an act of aggression for which his "boma" was stormed and destroyed. In June of the same year the officer commanding at Tabora received definite information that Siki was assembling the whole tribe with the intention of attacking and exterminating the Europeans. Determining to anticipate the attack, he attempted to take Siki's fort with five Europeans and eighty-eight men, but he failed to penetrate beyond the outer works and was obliged to abandon the attempt, after having suffered heavy casualties. In August a second attempt was made, but despite an increased force and the addition of two guns the attack failed, as did an endeavour to lay siege to the place. These setbacks added enormously to Siki's reputation and so encouraged him that he took the offensive and almost succeeded in annihilating a force under the command of Lieutenant von Prince. As the caravan route was now completely closed and as Siki was in open defiance of the Germans, yet another attempt was made to crush him. On 9th January, 1893, the German forces advanced. The fort was strongly defended with bastions and stout palisades from which an old cannon hurled a cloud of missiles of every shape and description at the attackers. For two days the fort was gallantly defended, and when it was finally rushed and taken, Siki fled with his family to his powder magazine and, preferring death to capture, blew the magazine up and died with all his family. With the exception of a minor expedition sent in 1893 against a truculent old chief in Mkalama, who was quickly

subdued, these were the only hostilities undertaken against the Wanyamwezi, who seem from the beginning to have been well disposed towards the Germans. Another tribe which gave trouble at this time were the Wagogo, between Kilimatinde and Tabora, a people so notoriously troublesome that Stanley had described them as exceeding all African tribes in truculence. It does not seem that these people had committed any distinct act of hostility against the Germans, but they had made the caravan route unsafe and were constantly in league with the Wahehe. It was necessary to undertake minor operations against them at two or three centres, after which the people sought peace.

TRANSFER OF ADMINISTRATION FROM THE COMPANY TO THE GERMAN GOVERNMENT

The revolt both on the coast and in the interior had proved the inability of the Company to cope unaided with the many problems with which it was faced, and had necessitated the appointment of a Commissioner and the raising of regular forces. Its experience was paralleled in British Protectorates where trading companies had opened up the country and had subsequently to summon Imperial assistance. The intervention of the German Government, sooner or later, was inevitable, and on 1st January, 1891, a Protectorate was proclaimed over the country which was thenceforward to be administered by the Imperial Government. The first Imperial Governor was Herr von Soden, who had previously been Governor of the German Cameroons. Subsequent Governors of the Colony were von Schele, von Wissmann (who had resigned his military appointment in 1891 but returned to the country as Governor for eighteen months in 1895-1896), von Liebert, von Goetzen (1901-1906), von Rechenburg (1906-1912) and von Schnee (from 1912 until the end of the German administration of the Colony).

The complete cession of the coast had still to be achieved, and to this end it was stipulated that the Company should pay to the Government 4,000,000 marks, to be paid to the Sultan. The original contract was dated 20th November,

1890, but was amended by a second contract of 15th November, 1902. The Imperial Government on its side undertook to guarantee a loan of 10,556,000 marks, out of which the 4,000,000 marks due to the Sultan were to be paid and the rest devoted to coast development; the Government further undertook to pay the Company annually 600,000 marks until December, 1935, and granted to the Company the right to occupy at intervals unoccupied land within fifteen kilometres on either side of the railway. Rights over mining dues were also given, but were consolidated so that half of all mining dues were made over to the Company. All agreements and concessions to the Company were made terminable on 31st December, 1935.

In contrast to the comparatively unhindered occupation by the British Government of the adjoining territory of British East Africa, the history of the establishment of the Company's rule had been one of almost incessant bloodshed. Critics, seeking a reason for this contrast, have ascribed the German difficulties to their lack of experience in colonial administration and to the ruthlessness with which discontent was suppressed. There was, however, a great difference between the tribes of the one country and those of the other. In British territory the majority of the tribes were not lovers of war. The Masai, who had maintained a reign of terror prior to the British penetration of the interior, and, almost alone of the tribes, had built up a reputation for truculence and hostility, were in fact either too cowardly or too sensible to offer any serious resistance to occupation. But in German East Africa, chiefs such as Sina and Mandara and tribes like the Wahehe were too warlike and well instructed in the art of war and pillage to make gentle submission. As has been previously explained, too, the Arabs, while prepared to accept as inevitable the arrival of the British, with whose influence in Zanzibar and elsewhere they were familiar, were opposed to German rule. Their interests, moreover, were more or less firmly entrenched in the territory which the Germans sought to conquer, whereas in British East Africa their influence was restricted to the littoral. The pacification of defiant and hostile tribes cannot be effected until they have learned a lesson

from the methods of modern warfare, and circumstances demanded that retribution should be swift and not forgotten. By the end of the last century the hardest part of the task was completed, and apart from isolated expeditions and the war against the Wahehe, to which reference must be made, the new Protectorate, as the country now was, settled down under German rule and remained, on the whole, fairly tranquil until the rebellion of 1905.

THE WAHEHE WARS

For years the Wahehe had been the terror of the country, but after the defeat of von Zelewsky in 1891 this tribe came to be regarded as almost invincible and Mkwawa, their principal chief, enjoyed a reputation which ascribed to him powers supernatural. The home of the Wahehe is the country round Iringa, but Mkwawa's servants travelled far and wide, taking tribute on distant caravan routes from travellers who paid without remonstrance. The situation was becoming intolerable and it was felt that something should be done to restore the reputation of German power and the prestige of the European, but, owing to constant minor troubles and to the difficulty of arranging for supplies in a hostile country some distance from the base, operations were delayed until 1894, or more than three years after the defeat of Zelewsky.

The expeditionary force, under command of Colonel von Schele, which comprised over five companies with sixteen officers and seventeen European non-commissioned officers, reached the Uhehe plateau on 22nd October, 1894, and, six days later, encamped before Kuirengu, the residence of Mkwawa himself. The town was situated on and bisected by the Ruaha River, being surrounded on both banks by stone walls measuring eight miles in circumference and twelve feet in height. At intervals of about three hundred yards these defences were strengthened by stout bastions. These works had been constructed since the expedition of 1891 in anticipation of an attack, but were not fully complete as the ditches below the wall were dug in parts only and did not form a continuous moat round the walls. The German plan had been

to bombard the town from a range of about a quarter of a mile, but it soon became evident that the guns were too light to make much impression on the walls. In view of this and of the growing depletion of supplies, it was found necessary to storm the defences and, a weak spot having been detected, the attack was commenced before dawn on 30th October. Though the walls were scaled the town was still bravely defended, particularly on the further side of the river where it had to be taken hut by hut, but eventually the whole stronghold capitulated. The German losses in this attack were one officer and eight men killed and four Europeans and forty-four men wounded. Mkwawa fled, but his impregnable capital had been taken and with it considerable booty, including 30,000 lbs. of gunpowder and 2,000 head of cattle. Three guns and one hundred and fifty rifles which had been taken from the Zelewsky expedition were recovered. These, for some reason or other, Mkwawa had retained, unused, in his own possession, whereas had he armed his warriors with these breech-loading rifles his defence would have been still more effective. On the return march of the German forces, the Wahehe once more attempted a surprise attack similar to that which had been so successful three years earlier, but their spirit was broken and the attack, made with little energy, failed completely.

The power of the Wahehe had now collapsed, but a constant guerilla war was maintained as Mkwawa declined to come to any terms, and it became evident that until he himself was vanquished there would be no hope of peace. The German Administration endeavoured to adopt a policy of isolating Mkwawa and of holding the rest of the tribe in check, establishing for this purpose a station at Perende, in the heart of the Uhehe country, in August, 1896. The policy of isolation developed slowly and in the early part of 1897 Mkwawa's kingdom had been divided between two other chiefs, one of whom was, however, found to be intriguing with Mkwawa and was hanged. The whole of that year passed in ceaseless hostilities, Mkwawa being kept in constant flight from one place to another, but, despite every effort, it proved impossible to capture this chief, on whose head a price of

5,000 rupees had been placed by the German Government, or to detach the affections of his loyal subjects. A German military report illustrates the remarkable hold he had over his followers:

“Mkwawa always moved between our patrols. He was supplied with information and food in the very localities where our troops operated, but the inhabitants declined to give our forces any information and denied all knowledge of his presence. When we were hot on Mkwawa’s trail, food and liquor would often be found placed in the pathless bush; his people always knew where to find him, the direction he had taken and the points he would traverse. Altogether, it was certain that Mkwawa exercised an inexplicable influence over the natives, who, when the pursuing troops surprised his camp, would, time after time, blindly hurl themselves on the soldiers, sacrificing themselves merely to give Mkwawa the chance of escape. No scheme for his capture was possible and no one ever knew even what he looked like.”

In the end, however, he could not maintain such an existence and moved from place to place to escape the net which was being drawn closely round him. The circumstances of his death are recorded in the following report of a German non-commissioned officer:

“On 14th July, 1898, a native brought news that Mkwawa had been here during the past few days. I received orders to proceed by forced marches with fifteen askaris and a few Wahehe and, if possible, to capture him. After a full day’s march we arrived unobserved at Pawaga. Next day at noon we disguised ourselves as bush natives. I had halted in the bush to await the remaining askaris who had been sent out to scour the country, when I saw a boy coming down the hillside. The boy fled as soon as he had seen us. We caught him and found that he was Mkwawa’s boy. He stated that Mkwawa lay sick in the bush three hours away, at a place where, on the evening before, he had shot his last companion for fear of betrayal. He, the boy, had run away that morning. Without waiting for my caravan I immediately started with one

corporal, two soldiers and one Mhehe, guided by the boy. After half an hour we heard a distant shot in a south-westerly direction. The boy thought that was Mkwawa shooting game for himself. At last he said we were near the camp. We took off our boots and kit and crawled on our stomachs to a baobab which I climbed, but I could see nothing. We crawled on over stony ground to a dry watercourse where we saw the camp at a hundred yards distance and from there we crawled on to within thirty yards of the camp. We now saw two figures apparently asleep, one of whom the boy said was Mkwawa himself. As we could not proceed over the stones unnoticed, we aimed, fired, and ran on. Both figures were dead, and we judged that the one identified by the boy as Mkwawa had been dead for about an hour or so. Mkwawa had clearly killed himself with the shot which we had heard and the muzzle of his carbine was burst and the rifle was charred by the fire beside him. . . . The caravan soon caught us up; the Wahehe immediately recognized Mkwawa and remained for long in silence."

Mkwawa's body was decapitated and was said to have been sent to Berlin. As political importance was attached to its recovery after the British occupation of German East Africa, provision was inserted in the terms of the Treaty of Versailles for the return of the skull to the Wahehe. The skull, however, could not be traced, and native evidence stated that Mkwawa's head had been exchanged for an unknown skull by certain Wahehe and buried at dead of night, with ceremonial honours, in his father's grave.

Mkwawa and his tribe had always been regarded by the Germans as brave and chivalrous enemies whose habits in war were very different from those of the bloodthirsty and treacherous Masitu. They had fought the Europeans for so long as their leader was able to do so, and thereafter they supported him as best as they could; but on his death they accepted the new order of things and, though living in the heart of the area which was later involved in the great rebellion, the tribe took no part in the insurrection nor did they ever again take up arms against the Germans.

THE REBELLION OF 1905-1906

The years 1905 and 1906 were occupied with the rebellion which was general throughout the tribes of the southern portion of the country. The area of the revolt may be roughly defined as the country south of the Central Railway and east of a line drawn from Kilosa to the north point of Lake Nyasa. The rebellion was chiefly remarkable for the combined effort of a number of tribes, for while it was never doubted that any one tribe might at any time give trouble, concerted action by many tribes was generally considered to be out of the question. Another surprising fact was that the tribes which participated in this rising had hitherto enjoyed a peaceable and unprovocative reputation, whereas the more warlike tribes of the Protectorate remained tranquil during the revolt. Although it was afterwards proved that a conspiracy had been set afoot a full year before the outbreak actually occurred, there was not the slightest warning of what was coming, and no official or soldier received any hint of the widespread preparations which were going on around them. It appeared that the first conspirators were drawn from the chiefs and medicine men of the Wapogoro and Wagindo, the initial plans being hatched by the more important chiefs who won over the others who were their relations, clansmen, or blood-brothers. Meetings were held at which the general plan of action was discussed under oath of secrecy. The successful maintenance of such secrecy, usually so impossible among natives, was due in the first place to the small number of the initial conspirators, the harmlessness of such indications as there were, and also, probably, to the fact that the masses who were drawn into the affair were really ignorant of its possible consequences. The rebellion was commonly known as the "Maji Maji Rising" (the word "maji" being the Swahili word for water) owing to a belief, prevalent throughout the whole of the disaffected area, that anyone who was armed with a certain medicine became invulnerable against bullets, which, it was stated, were turned to water. What has never been solved is whether the story of the medicine was invented and broadcast by the original conspirators with the primary object of fomenting

rebellion by creating the illusion that Europeans could be defied with impunity, or whether the rebellion was the result of the medicine's fame. This magic concoction seems to have originated in a report that a great medicine man lived in the Rufiji River in the form of a water monster, and that this supernatural creature could dispense medicine which afforded protection against disease, famine, and every sort of evil. The medicine was a mixture of water, maize and sorghum seed and was sprinkled on the body or taken internally or even carried in bamboo tubes about the person. Its fame spread far and wide and large numbers of natives made pilgrimage to the medicine men. The whole was done so openly as to preclude any ground for suspicion and Europeans were quite aware of its distribution. But, apart from the protection it was supposed to afford against the more usual calamities of native life, the medicine was endowed, according to its makers, with the sinister properties to which reference has already been made. Rifles were supposed to spurt water only, or the bullets, if fired, to trickle like water from a man's body, provided he had benefited by the medicine—a belief which led logically to another conclusion, namely, that henceforth the European was rendered powerless against the charm of the medicine, and could therefore be boldly attacked.

Once this belief was established there was no further reason why the happy possessor of such medicine should submit any longer to the rule of the European. The medicine was said to be far superior to the arms of the Europeans and its power was finally extended so as to make women invisible and secure from capture. It is easy to see how powerful a weapon lay in the hands of the ringleaders, whether they had the ingenuity to invent it themselves or whether they merely turned to their own purposes a belief which, in its first stages, was without ulterior motives. Its power was proved in the eyes of the natives, who hurled themselves upon the troops, as though there was nothing to fear, with cries of "Maji, Maji" or "Hongo Hongo" (medicine man). It was often observed that those whose courage failed for a moment were sprinkled with the medicine, when their courage would then be roused

again to an even higher pitch of fanaticism. From time to time, as the supposed merit of the medicine was proved a fallacy, new medicines would be invented or, as happened in the first months of the rising, the medicine men would coolly announce that those who appeared to have died had merely fallen asleep and would presently rise again with increased strength and courage. Though at that time the people were entirely in the hands and under the power of the medicine men, it remains a mystery why the belief in this medicine was so strong and enduring. The whole outbreak, indeed, is an example of the fact that unexpected and most unreasoned folly may at any moment arise and throw African countries into a state of confusion and bloodshed.

The rebellion broke out in August, 1905, in the Kilwa district, where a German planter and a number of Arabs were killed. The German outpost of Liwale, in the hinterland of the same district, was then attacked and annihilated, and a German bishop and his companions, two lay brothers and two nuns, were murdered while they were travelling in a vain and foolhardy endeavour to pacify the people. The rising spread throughout most of the south-east of the Protectorate. Unrest commenced and fighting took place in the Morogoro-Kilosa district and even in Dar es Salaam the European inhabitants thought it necessary to organize a defence force for the security of the town. In Mahenge and Iringa actions took place and the situation in isolated Songea was for a time precarious. A special feature of the magic which was not without its effect was introduced among the tribes of the extreme south-west, where those who took the medicine were enjoined on no account to look back lest the potency of the magic be lost. The courage of the rebels was thus increased by a moral terror of turning their backs on their opponents. Throughout most of the country the rising was suppressed by the spring of 1906, but in Songea the work of tracking down the last bands of Wagindo and Wadunde was not finally accomplished until January, 1907. There the rising had lasted longer than anywhere else and had been most stubbornly maintained, but with its suppression in this area the last embers of rebellion were stamped out. The results of the rising

were long felt, for the death roll of those who died fighting was small in comparison with the numbers who subsequently succumbed to disease and famine. It was common experience that the defeat of rebel bands here and there did little to bring the people to reason so that the consequences of rebellion had to be made known in a way which would affect every member of the tribe and the most effective method to this end was found to be the creation of famine by the destruction of crops and villages, a calamity which was felt long after hostilities had subsided. The numbers who died in the rising and as a result of it are said to have reached the figure of 120,000. It is interesting to note that a number of Papuan and Melanesian soldiers were brought over from the German possessions in the Pacific to reinforce the local forces.

PROGRESS OF THE COLONY FROM 1907 TO 1914

The lessons learned from the "Maji Maji" rebellion were not forgotten by the population and from 1907 onwards the intervention of military assistance in the administration of the country was a rarity. The rising had followed immediately on the Herero rebellion in German South-West Africa in 1903-1907, and it is stated, indeed, that word was sent by the Hereros to the East Coast natives, encouraging them to follow their example. But, however that may be, these successive revolts, involving not only a serious loss of life but substantial subventions from the home Government, caused the German Imperial authorities to consider whether the administrative policy in their African possessions was not capable of improvement. The first step taken was to create an independent office in Berlin for the management of colonial affairs, and in May, 1907, the administration of the German Protectorates was taken away from the Imperial Chancellor and entrusted to a new colonial department with Dr. Dernburg at its head. Herr Dernburg came out to the country soon after his appointment to investigate the methods of administration and to inquire into the causes which had provoked the revolt of 1905. As the result of his inquiries certain administrative changes were made and, henceforward, while the Governor remained

the supreme civil and military authority, the military and civil governments from 1906 onwards were separated, the Protectorate troops being placed under a separate commander, as it was found impossible for one man to control both the civil and military organization. The Governor was assisted by an advisory council, which met thrice a year, to which the budget and projected legislation were submitted, while advisory councils to which unofficials were nominated were constituted in the districts to advise in matters of local administration. The Protectorate was divided into three provinces, or "Residencies", and nineteen civil and two military districts. In the three Residencies of Ruanda, Urundi and Bukoba, where native organizations still existed, the inhabitants continued to be ruled by their sultans under the direction and supervision of the German Residents. The civil districts were in charge of commissioners, or "Bezirksamt-männer", who were responsible to the Governor for their peace and good order. As regards native administration itself, the Germans had inherited and developed a system, introduced by the Sultan of Zanzibar in the middle of the previous century, of administering the tribes through the medium of paid native officials, usually of Arab or Swahili extraction, each of whom had restricted magisterial jurisdiction over natives (including the power of corporal punishment) and was responsible for the collection of taxes over a group of villages. These officials were known as Akidas, a Swahili term meaning a commander of soldiers. The village headmen, known as Jumbes, were, if influential, directly responsible to the Bezirksamt-männer, and were given the same magisterial jurisdiction over their village or group of villages as the Akidas, to whom they were otherwise subordinate. The system of administration was not a happy one, for the Akidas were frequently quite oblivious of native law and custom and regarded Islamic culture as the only road of advance. Moreover, for the whole of the Protectorate, i.e. for an area of 385,000 square miles, with a population of over seven million natives, the Germans had, in 1914, an administrative staff of only seventy-nine Europeans, an establishment which rendered it impossible, as the Germans to some extent recog-

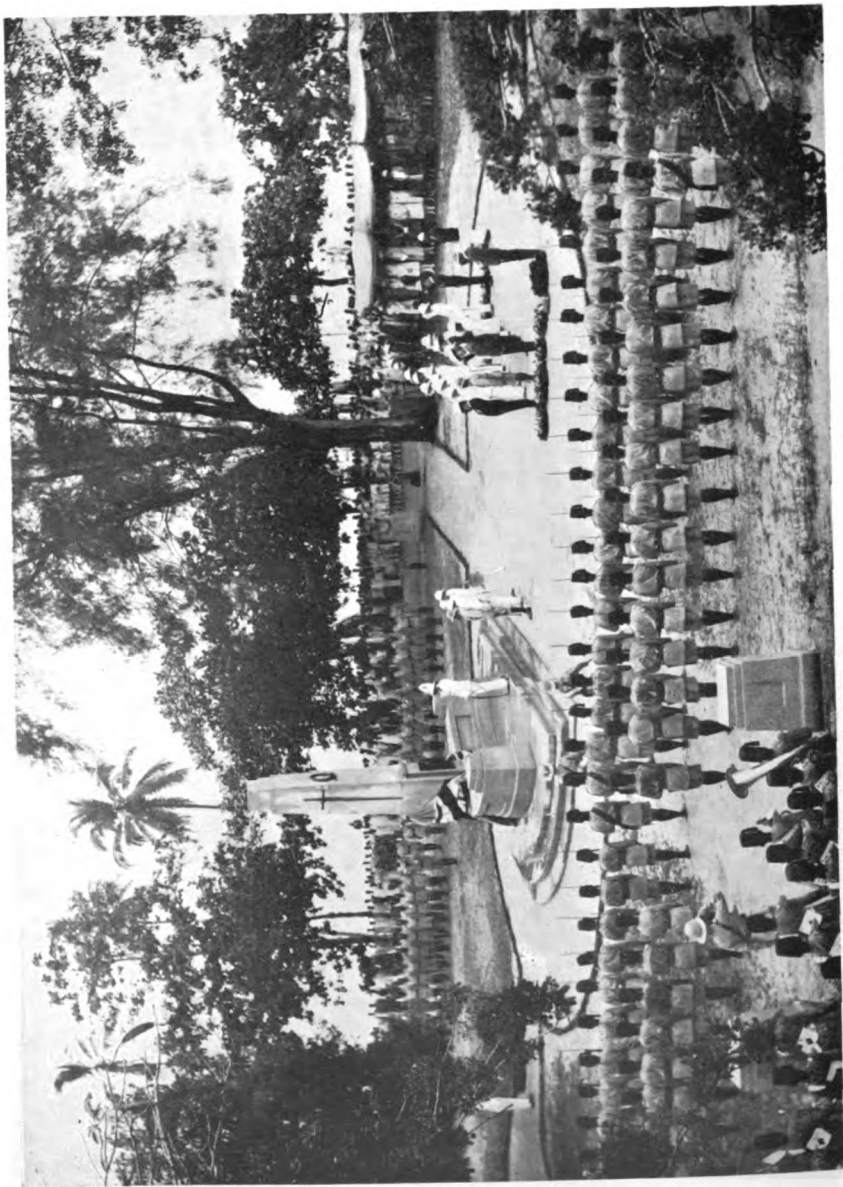
nized and admitted, for the district officers to supervise the activities of the native officials or to travel their districts. No system of indirect administration through the native organizations appears to have been contemplated except in the three Residencies, and an unimaginative centralization seems to have been the keynote of German administrative policy. But if progress in this direction was slow, much was done in other ways to improve the lot of the inhabitants; and expenditure on native education, hygiene and agriculture was generous. A system of communications was one of the most urgent requirements of the young Protectorate, and in the early 'nineties a railway from Tanga to Lake Nyanza was projected. The Deutsche Ostafrikanische Gesellschaft, or the 'Company', constructed the first portion of this line as far as Muhesa, twenty-five miles from Tanga, but, like most colonial railways in the early stages of development, the line did not pay and was taken over by the Government in 1899. Its continuance, however, was a necessity from a political viewpoint, as the Wachagga had not taken kindly to German occupation which had to be supported by the presence of a garrison in their country. To leave these isolated units a fortnight's march from the coast was undesirable, and it fell to the Government, therefore, to undertake the construction of a line which would pass westward under the Usambaras to Kilimanjaro. Like most railway ventures in Africa, the line, started for strategical and political reasons, was to become of the greatest economic importance. The railway crept slowly towards the mountain, reaching Mombo in 1904 and Moshi, at the foot of the mountain and two hundred and twenty miles from Tanga, in 1911. In 1904 a concession was granted to a German Company, which had a capital of one million pounds, to construct a railway from Dar es Salaam to Morogoro, the concessionaires receiving a guarantee of interest upon their capital from the Imperial Government. The line was completed in 1907, and was opened by Herr Dernburg, the Colonial Secretary. The line was continued to Tabora, which was reached in 1912, and to Kigoma on Lake Tanganyika, seven hundred miles from the coast, in June, 1914. These subsequent extensions were

financed by Government, which became the chief shareholder in the Company. From Tabora a line to the thickly populated districts of Ruanda and Urundi was contemplated, and a section of the earthworks had actually been laid when war broke out and interrupted the construction. European settlement, which to some extent had preceded the completion of the Tanga Railway, increased largely with the provision of railway facilities, and the fertile area round Kilimanjaro soon became studded with German homesteads, while the railway line from Tanga to Korogwe became lined with plantations of Ceara rubber, which were planted during the rubber boom of 1909-1910 with great expectations of profits, but which, with the subsequent fall in the price of rubber, were not a commercial success.

The German census for 1913 showed nearly nine hundred persons engaged in planting, of whom about two-thirds were resident in what are now the Tanga and Northern Provinces. Germans and Greeks first settled in Moshi at the beginning of this century, while in 1904 a number of Boers, dissatisfied with conditions in their own country after the South African War, migrated to German East Africa and found a home in the pastoral areas round Ngare Nairobi and Arusha; in all about five hundred of these Dutchmen are said to have arrived in German East Africa, but more than half that number left in the course of the next few years and either returned to the Union or took up land on the Uasin Gishu plateau of British East Africa. In the fertile but comparatively low-lying plains of Morogoro some seventy settlers had taken up land and had put large areas under Ceara rubber, while a handful of pioneers made their way to the then remote districts of Langenberg (now Tukuyu) and Iringa.

In the meantime trade had leapt forward in an encouraging way, as will be seen from the following table:

Year.	Imports.	Exports.	Total.
	£	£	£
1900	601,527	214,682	816,209
1903	559,403	352,710	912,113
1906	1,257,642	549,736	1,807,378
1909	1,697,085	655,974	2,353,059
1912	2,515,000	1,570,000	4,085,000



THE KING'S AFRICAN RIFLES (6TH BATTALION) AT THE UNVEILING OF THE CENOTAPH
IN DAR ES SALAAM, 1928

The revenue increased largely in the ten years prior to the war, though assistance was necessary annually in the form of a contribution by the Imperial Government on account of military expenditure. The following table shows the ordinary revenue collected from 1904 to 1914, together with the subsidy on account of military expenditure:

Year.	Ordinary Revenue.	Contribution by Imperial Government on account of Military Expenditure.	Total.
	£	£	£
1904	296,900	309,050	605,950
1905	347,350	348,200	695,550
1906	361,950	298,400	660,350
1907	395,700	293,050	688,750
1908	381,100	224,150	605,250
1909	543,650	178,900	722,550
1910	658,650	179,250	837,900
1911	689,350	177,150	866,500
1912	623,750	180,900	804,650
1913	688,750	180,200	868,950
1914	823,900	165,000	988,900

(d) THE CAMPAIGN IN EAST AFRICA¹

When the World War broke out in 1914 the garrison of British East Africa, the territory immediately north of German East Africa, was scattered and engaged on punitive expeditions remote from the enemy frontier. In the case of each Protectorate the troops were native with European officers. The German forces, some 5,000 strong, including 260 Europeans, lay ready to the hand of their commander, Von Lettow-Vorbeck, a capable and determined soldier well able to employ them to full advantage. If it is remembered how keenly sensitive the native soldier is to any shortcomings in his superior and that Von Lettow had only been with his command for six months when hostilities began and kept that command efficient and formidable through four years of steadily declining fortune, some idea may be formed of the

¹ The Editor is indebted to the *Encyclopædia Britannica* for permission to insert the article on the "Campaign in East Africa" in the Thirteenth Edition of the *Encyclopædia*. This article is the copyright of the *Encyclopædia Britannica*.

resolute nature and soldierly qualities of the German commander-in-chief. His operations consistently bore the clear imprint of his skill and personality, and there were advantages, other than his professional capacity and steady courage, upon which he could rely.

Early
operations.

The country, nearly double the size of Germany in 1914, which was the scene of operations is for the most part covered by bush, dense as a rule, but occasionally thinning out to something like park land. High mountain ranges, thick with vegetation, rear themselves from bush and jungle which are fever-stricken and liable to wholesale inundation during the rainy season. Rivers abound and malaria and dysentery of a malignant type, with other tropical diseases, combined to swell the casualty list of a European or Anglo-Indian force. Practically every animal imported into East Africa for the use of the British forces succumbed to the tsetse fly. The route of every British advance was marked by casualties due to diseases from which the rank and file of the enemy, askaris recruited from the local tribes, were immune. Surprise by the attacker was as difficult as it was simple by the defender, who waited concealed and warned by the laborious approach of his adversary cutting roads and bridging culverts.

Supply and transport presented appalling difficulties to an advance through hundreds of miles of naturally impenetrable bush, while the defending force slowly fell back upon the magazines posted in its rear. Only an overwhelming preponderance in numbers made any advance possible, but a force starting with a strength adequate for an offensive enterprise constantly found itself reduced, at best, to an equality of strength on contact with the enemy. Many good cards were thus in the hand of the German commander, and he rarely failed to play them with full effect.

Naval
operations
and German
advance.

On 8th August, 1914, two British cruisers, *Astraea* and *Pegasus*, arrived opposite Dar es Salaam from Zanzibar, and, being unable to leave a garrison, the naval commander covenanted with the German governor that the latter should forbear from any hostile action in Dar es Salaam itself. Parallel to the southern frontier of British East Africa and about fifty miles distant from it ran the Uganda Railway

from Mombasa to Lake Victoria. This tempting and exposed objective, for the protection of which the British troops at the outset were hopelessly inadequate, at once appealed to Von Lettow, who on 15th August seized Taveta, which lay in British territory at the eastern end of the gap between the southern slopes of Mount Kilimanjaro and the northern end of the Pare Mountains in the German Protectorate. An enemy force here was a standing menace to the British capital at Nairobi, and, constantly raiding the railway line, seriously hampered the British initiative.

In September the enemy cruiser *Königsberg* returned to Dar es Salaam and on 20th September surprised and destroyed the *Pegasus* while undergoing repair in the Zanzibar roadstead. A combined enemy operation against Mombasa, for the execution of which the *Königsberg* was to attack the port in conjunction with a land force moving north along the coast, failed, as the *Königsberg* was driven by the ships of the Cape Squadron into the Rufiji delta, where she was run aground. The land force began its march along the coast on 20th September, was repulsed at Gazi, twenty-five miles from Mombasa, on 23rd September, and retired to the frontier on 8th October. The crew of the *Königsberg*, which was blown up in July, 1915, after being set on fire by the monitors *Severn* and *Mersey*, joined the enemy land forces, together with its armament of ten 4.1 guns.

German raids along the coast, on the Uganda Railway, and into the frontier districts of Uganda, Belgian Congo, Rhodesia and Nyasaland were constant in the opening months of the campaign. These small enterprises were much simplified by the central position of the enemy and the excellent lateral communication afforded by the Central Railway from Dar es Salaam to Kigoma, on Lake Tanganyika. This lake was under German control until December, 1915, when by the operations of motor boats specially brought from Cape Town the enemy was deprived of the one lake which had not been in British hands since the earliest days of the campaign.

It soon became apparent that, unaided, the British Protectorate forces could not hold their own, and the Government of India consented to send an expedition. On 25th

Reinforce-
ments from
India.

August its leading unit reached Mombasa with Brigadier-General Stewart, who assumed command. The rest of the expeditionary force was directed on Tanga, the northernmost German port, at the southern extremity of the Usambara Mountains, healthy highlands where the bulk of the German settlers resided. Coincident with an attack on Tanga an advance against Moshi by the north of Kilimanjaro was to be made by Stewart. The expeditionary force under Brigadier-General A. E. Aitken was about 7,000 strong and (except for the 2nd Loyal North Lancs) composed of Indian troops.

Failure of
British
offensive.

The transports reached Tanga on 2nd November, when the local commissioner represented the place as an open and undefended port and bombardment was deferred. Meanwhile, Von Lettow, advised of the plan by captured Indian mails, was hurrying reinforcements to the coast. When one and a half British battalions landed two miles east of the town on the evening of the arrival, they met with strong opposition and fell back. Von Lettow arrived on the evening of the following day, when British reinforcements had been landed and fighting resumed, and on 4th November heavily defeated his opponent, whose casualties were 795. On the same day Stewart, checked at Longido, was compelled to retire. The British force at Tanga re-embarked and reached Mombasa on 5th November. The first British offensive had thus failed completely. Von Lettow's success at Tanga put an end for the time being to any general offensive against him, and it was not until 1916 that the next British advance was set in train.

The intervening period was occupied in raiding by both forces, with occasional engagements of a more ambitious nature. A British force was compelled to surrender on 17th January, 1915, at Jasin, in enemy territory, to a superior force, after forty-eight hours' fighting, which exhausted their ammunition and water. German losses, especially in officers, were serious, as was the shrinkage of ammunition. Major-General M. I. Tighe assumed chief command in April, 1915, and in June, Bukoba, on Lake Victoria, was successfully attacked.

Reinforce-
ments arrive.

Aid was now sought from a different quarter, for, with the conquest of German South-West Africa by General Louis

Botha in July, 1915, the resources of the Union of South Africa became disposable to an extent which was impossible till the disappearance of the enemy from her own border. During the latter half of 1915 there was continuous preparation in South Africa of troops, depots, supplies, medical stores, transport, animals and materials of all kinds for use in East Africa. By February, 1916, one mounted brigade, two infantry brigades and one field artillery brigade, complete with all their auxiliary units, had arrived from South Africa to join Tighe. A second mounted brigade followed, together with a battalion of the Cape Corps (coloured men from the Cape Province). Tighe also had the following European units: the Calcutta Volunteer Battery, the 2nd Loyal North Lancers, 25th Royal Fusiliers, 2nd Rhodesians and two local settlers' corps; India sent him from her native army ten infantry regiments, one squadron of cavalry and two mountain batteries. The battalions of the King's African Rifles were the original native Protectorate force. At the same time, Von Lettow's force had reached the highest limit which it attained in the campaign and was probably over 20,000. The exact combatant strength is difficult to estimate, for there were many carriers of whom a percentage were armed and many trained as askaris. The askari in his own country is a soldier of high value. Such a force, with a strong leaven of Europeans trained to arms, under a skilful and determined commander, was a formidable adversary in tropical bush country.

In April, 1915, the mind of Von Lettow, which had been sorely exercised by his shortage of ammunition, was relieved in the following remarkable manner. A British ship, the *Rubens*, seized at Hamburg, left that port loaded with arms and ammunition and appeared off Tanga on 4th April, being sighted by H.M.S. *Hyacinth*. Entering Manza Bay on fire and abandoned, she was boarded by bluejackets, who found her timbered up and battened down. After firing more rounds the *Hyacinth* steamed away, on the assumption that her quarry would burn herself out. The Germans returned and salvaged almost the entire cargo, and a largely increased volume of enemy fire from the Mauser pattern 1898 rifles which the

German
ammunition
supplies.

Rubens had brought was the result. A repetition of this operation a year later will be referred to.

Operations
under
General
Smuts.

The chief command in East Africa was assumed by General Smuts in February, 1916. He had previously declined the post, but when General Smith-Dorrien was compelled to relinquish the command in consequence of illness he accepted it. He reached Mombasa on 19th February and found the railway completed from Voi to Serengeti, five miles from Salaita Hill, the German advance position from Taveta. A week earlier an attack on Salaita had failed. The rainy season was at hand and movement would then become impossible, and Smuts telegraphed to Lord Kitchener that he was ready to carry out the occupation of the Kilimanjaro area at once. The proposal was agreed to and Smuts proceeded to initiate his first advance.

British
advance on
Taveta.

An attack, designed primarily to hold the enemy, was to be delivered on Salaita by a force under General Malleeson, while Stewart was to repeat his attempt of 1914 to reach Moshi by the north of Kilimanjaro and thence to intercept any enemy retirement in his direction. General van Deventer with a mounted brigade, moving by Malleeson's right, was to cross the Lumi River, and by way of the foothills of Kilimanjaro cut the enemy line of retreat between Taveta and Moshi. The execution of this movement unobserved was the only chance of surprising the enemy, for it was apparent to Von Lettow, who had made all preparations for retirement, that Taveta was Smuts' objective. Van Deventer moved on 8th March, and on the following day his troops were astride the Moshi-Taveta road. On the same day the Germans evacuated Salaita and took up new positions on two hills, Latema and Reata, covering the gap between the Pare Mountains and Kilimanjaro. The main enemy force was posted at Himo, five miles from the gap, whence it could move in any direction to attack or retire. The progress of Stewart's force was so slow that his movement was without effect.

The new enemy position was attacked on 11th March and, after severe fighting all day and the succeeding night, was occupied on the morning of the 12th by a general advance in support of detachments which had won their way to the

two crests during the night and caused a retirement by the enemy.

Von Lettow now withdrew his entire force to a position (Kahe-Ruvu) which stretched south of the Taveta-Moshi road from Kahe railway station eastward along the northern end of the Pare Mountains. He was followed up and attacked on 18th March from Latema Nek by Brigadier-General Sheppard, and on 20th March van Deventer was sent from Moshi to turn the enemy at Kahe. He seized Kahe on 21st March, and on the following night, after a very severe action with Sheppard, the enemy withdrew to Lembeni, twenty miles south of Kahe. Von Lettow abandoned one 4.1 gun, and had expended ammunition to an extent which he could ill afford, but his force was intact and the timely arrival of the second blockade-runner at this juncture with four 4.1 field howitzers, gun and small-arm ammunition, machine-guns, stores, provisions and clothing was an inestimable stroke of good fortune. Here the operations which Smuts had undertaken before the rainy season were successfully concluded and the British forces took up positions covering Taveta and Moshi and facing the enemy at Lembeni.

During the ensuing rains Smuts reorganized his force and prepared to resume the offensive at the earliest possible date. He could rely for assistance in his main operations upon the Belgians in the north-west and the British force under Major-General Northey, operating from Nyasaland, to the south-west. For reasons fully recorded in his despatches, Smuts decided at once to send van Deventer with a mounted force rapidly by Arusha to Kondoa-Irangi and thence to the Central Railway and east along that line to Morogoro. His own force was to move south by the Pangani and make for the same ultimate objective, Morogoro. It was hoped that Von Lettow would there be brought to bay by the two converging forces.

Van Deventer moved on 3rd April and occupied Kondoa-Irangi on 19th April, capturing the enemy garrison at Lol Kiasale *en route*. He reached Kondoa-Irangi after heavy casualties in men and animals from disease, and was there cut off and reduced to immobility as a consequence of his

German
withdrawal.

New British
offensive.

losses and the advent of the rainy season. Von Lettow concentrated a force against van Deventer and fighting ensued, but the German attacks, with one exception, lacked vigour and were all repulsed. Van Deventer's position was eased by the end of May, when Smuts began his advance down the Pangani and the Belgians moved on Tabora. Major Kraut was in command of the German force opposite Smuts when the latter set his troops in motion southwards from Moshi on 18th May, Von Lettow having assumed direction of his concentration against van Deventer.

Systematically outflanked by his opponent, whose main advance along the Pangani was supplemented by flank movements by the Pare and Usambara ranges, Kraut found himself compelled to leave the Tanga Railway and retire upon Handeni. This place was seized by Smuts on 19th June, Korogwe having been occupied four days earlier. On 24th June the Germans were attacked simultaneously on three sides, but, after determined fighting, withdrew into the Nguru Hills. Smuts was now compelled to halt his force on the Msiha River. In a month two hundred and fifty miles had been covered, but malaria had reduced the strength of all units, combatant and non-combatant, in some instances to thirty per cent of their original numbers. The troops were on half rations, and the transport, which included a variety of types of motor vehicles, was much damaged. The coast region was now dealt with, and, with the aid of the navy, Tanga, Pangani, Sadani and Bagamoyo were successively occupied between 17th July and 15th August. The removal of the British base to Tanga saved two hundred miles of rail transport. Dar es Salaam was occupied on 4th September, but three months elapsed from its capture before it could be used as the base.

German
retreat.

Von Lettow now moved the bulk of his force once more opposite Smuts, and on 24th June van Deventer resumed his advance and at the end of July held the Central Railway from Kilimatinde to Kikombo, about one hundred miles. On 9th August he was ready to move on Morogoro. The Belgians were at the same time advancing on Tabora against the German force under Major-General Wahle, who was left

to do his best unaided, though some reinforcements were sent south-west against Northey. Smuts moved again on 5th August, opposed by a detachment of the enemy, whose main force was withdrawn to Kilosa, whence it proceeded south towards Mahenge, the eventual direction of the enemy retirement on all fronts. Von Lettow directed the remainder of his forces by a route through the Uluguru Mountains, thus foiling the attempt to intercept him at Morogoro. Heavy fighting ensued in these mountains, but Kissaki fell into British hands on 15th September and Von Lettow retired to Mgeta River and there entrenched himself. On this front during the last three months of 1916, activity was confined to such minor affairs as are usual between opposite entrenched forces. Civil administration was instituted in the occupied area behind the British forces.

The Belgian force (also native) under Major-General Tom-
beur, with European officers, was divided into two brigades, ^{Belgian operations.} the Northern (Colonel Molitor) and the Southern (Lieutenant-Colonel Olsen), and operated in the north-west of German territory, opposed by Wahle, who was instructed to avoid a decisive action. The Belgian operations, well planned and successfully executed, were of prime importance to the general campaign. Broadly described, they were as follows: Molitor invaded Ruanda by the north of Lake Kivu, while Olsen co-operated south of him by the north of Tanganyika. The movements started on 4th April and by the end of May the Belgians were in possession of Ruanda. Molitor then sent columns south-west to join hands with Olsen and other columns south-west to Lake Victoria, which was reached on 27th June.

In the middle of July, on a front between Tanganyika and Victoria, Molitor and Olsen moved south on the respective objectives of Tabora and Kigoma, the terminus of the Central Railway on Tanganyika. Olsen occupied Kigoma on 28th July and Ujiji on 2nd August, and then moved east on Tabora. Co-operating with Molitor was a British column under Brigadier-General Sir C. P. Crewe, who captured Mwanza on the southern shore of Lake Victoria on 14th July. On 19th September Molitor occupied Tabora, which Wahle

had evacuated the previous day, leaving behind his sick, with civilians and prisoners of war. Crewe reached the Central Railway a week later.

British
advance
from
Rhodesia.

By this time Northey had succeeded in interposing some of his forces, which were in three columns under Lieutenant-Colonels Hawthorn, Murray and Rodgers (the last a South African unit), between Tabora and Mahenge. His advance was on an original front between Lakes Nyasa and Tanganyika. Murray occupied Kasanga (Bismarckburg) at the south end of Tanganyika on 8th June. The Germans were defeated at Malangali on 24th July, and on 29th August Iringa was occupied, Lupembe having been seized ten days earlier. Northey, ordered with van Deventer, now at Kilosa, to deal with the enemy in the Mahenge district, was much outnumbered by forces already in touch with him and Wahle's columns approaching from the north, and on the night of 21st October most of Wahle's troops broke through him. On the same day Kraut was heavily defeated at Mkapira. Hawthorn secured the surrender of an enemy column at Ilembule. On 24th December van Deventer and Northey attacked the Mahenge force. An enemy column surrendered to Northey, but the force engaged with van Deventer escaped him after fighting from 25th to 28th December.

Position at
end of 1916.

By the beginning of 1917 Smuts had evacuated 12,000 to 15,000 white troops (South Africans), mostly victims to malaria, and they had been replaced by the Nigerian Brigade (Brigadier-General Cunliffe) and by fresh battalions of the King's African Rifles. Kilwa and Lindi, south of Dar es Salaam, had been seized by the navy and a force under Major-General Hoskins had been concentrated at Kilwa. On 1st January, 1917, an advance was made on the Mgeta position, but after heavy fighting, the enemy retired across the Rufiji at Kibambawe. Smuts now went to England and Hoskins assumed the chief command. The rains ensued, and to clear the north bank of the Rufiji was all that could be barely accomplished before operations ceased perforce. Hoskins completely reorganized his command, but before operations were resumed he was ordered to Palestine. His successor in East Africa was General van Deventer, who

assumed command of the forces there at the end of May, 1917.

The enemy forces were disposed as follows: Von Lettow near Kilwa, Wahle in the Lindi area, Tafel at Mahenge, detachments between Kilwa and Lindi and near the Rovuma. Northey lay south and west of Tafel, with another British force at Iringa, north-west of the enemy. The rest of van Deventer's troops were to act against Von Lettow. In pursuance of this decision an advance was made by the Kilwa force under Brigadier-General Beves on 5th July towards Liwale. The enemy fell back to Narungombe, where a severe engagement took place on 19th July. The enemy retired south, but the Kilwa force was unable to move again until mid-September. In August the enemy was driven from the Lukuledi estuary to allow of an advance inland from Lindi. The Kilwa force (Hannington) was to move south, and that at Lindi (Beves) west. These operations were marked by the hardest fighting of the whole campaign. Von Lettow fell back, under pressure by Hannington, towards Nyangao, forty miles south-west of Lindi, Wahle doing the same before Beves. On 15th October a four days' battle began between Beves' force and the enemy under Von Lettow joined by Wahle. The latter retained their position, and it was ten days before Beves' force under the command of Cunliffe could resume the offensive.

On 8th October Tafel, pressed by Northey with Belgian co-operation from the north, had retired from Mahenge, and, breaking through two weak detachments on 16th November, moved south-east towards Von Lettow, whom he was debarred from joining by the Kilwa force. Vainly endeavouring to join the main body, Tafel reached the Rovuma, but, unable to procure food, surrendered with his entire force on 28th November.

On the night of 25th-26th November Von Lettow, having shed all weaklings, crossed the Rovuma into Portuguese territory, and thenceforward moved as the circumstances of his position, without bases and short of ammunition, dictated. Early successes in the new sphere of action, especially at Ngomani, gave the Germans food, ammunition, arms and

Van
Deventer's
operations.

Germans
retire to
Portuguese
Territory.

clothing, and when the rainy season set in in January, 1918, they were able to rest for a short time.

The operations during 1918 were carried out almost entirely by natives, the King's African Rifles, and Von Lettow fell back upon guerilla tactics. Against him in Portuguese territory were sent columns from the east and south shores of Nyasa; and another (Brigadier-General Edwards) advanced west from Porto Amelia, midway between the Rovuma and Mozambique. After various engagements Von Lettow marched in May south to the Lurio River, two hundred miles from German territory, capturing Ille, and in June reached the coastal region near Quelimane. On 1st July he captured Nyamakura, twenty-five miles from Quelimane, and in the middle of August at Chalana eluded envelopment by converging columns. Turning north-west, he was engaged by Hawthorn (who had succeeded Northey) at Lioma, east of Lake Shirwa. After several encounters, the German force reached the Rovuma again on 28th September, and, after resting at Ukena, where Wahle was left, set out for Rhodesia. On 1st November Von Lettow made an unsuccessful attack on Fife, and, turning south-west, took Kasama on 9th November. Advised on 13th November of the Armistice, he accepted it the following day, and on 23rd November formally surrendered to General Edwards at Abercorn. With him were Dr. Schnee, the Governor, and Major Kraut, together with a force of 30 officers and 125 other Europeans, 1,165 askaris and 2,891 other natives (including 819 women), one small field gun, twenty-four machine guns and fourteen Lewis guns.

Troops
engaged,
casualties,
etc.

The troops employed by the Allies in East Africa included 52,339 sent from India (5,403 British) and 43,477 South African whites. East African and Nyasaland settlers, Rhodesian volunteers and the 25th Fusiliers numbered about 3,000; African troops (King's African Rifles, Nigerians, Gold Coast Regiment, Gambia Company, Cape Corps) and West Indians about 15,000—an approximate total of 114,000, not reckoning Belgian native troops (about 12,000 in all), Portuguese and the naval force engaged. The greatest number in the field at any one time, May to September, 1916, was about



[Photo by A. Wetherell

THE DHOW HARBOUR, DAR ES SALAAM

55,000; the lowest, in 1918, some 10,000, all African, save administrative services.

British and Indian casualties were returned at 17,823; of these, 2,762 were in the South African Forces. These figures are exclusive of casualties among carriers and of deaths and invaliding through sickness, which among the South Africans alone exceeded 12,000. The cost of the campaign to Great Britain, inclusive of Indian and South African expenditure and that of the local protectorates to March, 1919, was officially estimated at £72,000,000.

(e) RECONSTRUCTION

With the advance of the East African Expeditionary Force at the beginning of 1915, a Chief Political Officer and four senior officers, seconded from the Administrative Service of British East Africa, were appointed to accompany the Force as Political Officers, their principal duties being to assist in the procuring of intelligence and the collection of labour and supplies and to advise the military in their general dealings with the native population. Towards the end of the year all the country north of the Central Railway was effectively occupied either by the British forces or by the Belgian troops and His Majesty's Government decided that the time had come to appoint an Administrator of Occupied Territory. Mr. Horace Byatt,¹ then Lieutenant-Governor and Chief Secretary of Malta, was appointed to the post and arrived in the Territory on 11th December, 1916. In a Proclamation by General Smuts dated the 22nd December, 1916, the powers of the General Officer Commanding were delegated to the Administrator (except in regard to military operations and jurisdiction over members of the forces) in respect of an area bounded on the north by the Kenya-Uganda border, on the south by the Central Railway (excluding the towns, the railways and the stations thereon), and on the west by the Tabora-Mwanza road and thence westerly, along the southern boundary of the Mwanza and Bukoba districts, to the Kagera River. This area comprised the German districts of Moshi,

¹ Now Sir H. A. Byatt, G.C.M.G.

Arusha, Wilhelmstal, Tanga, Pangani, Bagamoyo, Kondoa-Irangi and Bukoba, a portion of the Tabora district which was not occupied by the Belgian troops and those parts of the Dodoma, Morogoro and Dar es Salaam districts which lay north of the Central Railway. The lake districts of Mwanza and Bukoba and part of Tabora, which had been administered by General Crewe in consultation with the Uganda Government since their occupation by the forces, now came within the boundaries of the Occupied Territory; while the Taveta sub-district of the British East Africa Protectorate, which was somewhat remote from the district headquarters at Voi, was administered for the sake of convenience from Moshi, to which it was in close proximity. The delimitation was somewhat rough and ready and part of some districts which lay astride the Central Railway came under the Civil Administration while part remained under the control of Political Officers who were attached to and responsible to the Military Authorities. Moreover, in the west it was not possible to follow a continuous line, since the Belgians, in addition to the Ruanda and Urundi Provinces, the district of Ujiji and a part of Ufipa, were also in actual occupation of the region of Biharamulo, so that the northern portion of the district of Bukoba, so far as continuous land communication was concerned, was detached from the rest of the area under British occupation.

By a later Proclamation, dated 21st January, 1919, issued by General van Deventer, the German administrative districts of Dar es Salaam, Rufiji, Mahenge, Iringa, Langenberg, Bismarckburg, Tabora, Dodoma and Mwanza were added to those which had come under the control of the Civil Authorities, with effect from 1st March of that year. The districts of Langenberg (now Rungwe), Iringa, Mahenge and part of Bismarckburg (now Ufipa) had hitherto been administered under Major-General Northey¹ by a Chief Political Officer, Mr. Duff.² The latter continued to remain in charge, with a separate secretariat, until 30th September, 1918, when he returned to Nyasaland to take over the administration of the government of that Protectorate and

¹ Now Lieutenant-General Sir Edward Northey, G.C.M.G.

² Now Sir Hector Duff, K.B.E.

the south-western area was merged in the rest of the territory for administrative purposes. There then remained outside the scope of civil administration only the districts of Songea and Lindi (with Tunduru), which were still in close proximity to General von Lettow-Vorbeck's activities in Portuguese East Africa, and the township of Dar es Salaam, which, being still full of troops, remained a military cantonment. Wilhelmstal, now named Lushoto, in the Usambara Mountains, had, with the establishment of civil administration, been selected in 1916 as the most suitable site for the civil headquarters; but it was an inconvenient centre. Accommodation was quite inadequate for the heads of the civil departments, even in the beginning, so that the heads of the Medical, Postal, Public Works and Enemy Property Departments had to be quartered in Tanga. The remoteness also of Wilhelmstal from the Central line rendered close supervision over the outlying districts a matter of difficulty, as the running of vessels between Tanga and Dar es Salaam was so irregular that it was often a matter of six or seven weeks before replies could be obtained from the latter place, where the headquarters of the Military Authorities were situated and through which all correspondence from the central and southern districts had to pass.

The acceptance of responsibilities over the more extended area named in the Proclamation of 21st January, 1919, had only been undertaken by the Administrator on the understanding that the military forces in Dar es Salaam would be reduced to enable accommodation to be provided for the Civil Government at Dar es Salaam, but the reductions failed to materialize and after consideration of various alternatives, such as the removal of civil headquarters to Morogoro, the central administration remained at Wilhelmstal until 12th February, 1919, when headquarters were finally transferred to Dar es Salaam. On 1st October, 1918, the township of Dar es Salaam was handed over to the civil authorities and on 1st January, 1919, the remaining districts of Lindi and Songea were likewise so transferred. On 31st January, 1919, a Royal Commission was issued appointing Sir Horace Byatt to be Administrator of that portion of German East Africa which was occupied by His Majesty's Forces, and

on the ratification of the Peace Treaty with Germany on 10th January, 1920, that part of the former colony which the principal Allied and Associated Powers agreed should be administered by Great Britain was named the Tanganyika Territory.

There was still, however, a small portion of the Territory which was under temporary administration by the Belgians since their occupation, namely the Ujiji (now Kigoma) district and the northern portion of what is now the Ufipa district, and also Biharamulo. These areas were finally handed over by the Belgians on 22nd March, 1921. There remained to be settled only the delimitation of the Anglo-Belgian boundary on the border of Ruanda and Urundi, which, in accordance with the mandate, was to be demarcated by a joint Commission. The Commissioners started work in September, 1922. The boundary as originally drawn up under the Milner-Orts Agreement was intended to provide a corridor for the possible construction of a railway on the west side of the Kagera River to connect the Territory with Uganda, but this line cut off and placed under British administration a small portion of the domain of Musinga, King of Ruanda, the major part of whose kingdom lay within Belgian occupied territory. As the result of representations made to the Permanent Mandates Commission of the League of Nations, conversations took place between the Belgian and British Governments with a view to amending the boundary, and His Majesty's Government, consenting to waive their rights over this strip of territory, joined the Belgian Government in a representation to the League of Nations for the adoption of the mid-stream of the Kagera as the international boundary. The new boundary was approved by the League and the articles of the Belgian and British mandates were amended accordingly. The area, which was known as the Lukira sub-district, was handed over in December, 1923, to the representatives of the Belgian Government.

The administration of the territory in the early stages had to be carried on, of course, on a purely provisional basis. German ordinances and regulations were followed where they were not repugnant to British law, and Political Officers

continued to exercise the judicial powers which had been conferred upon them by the Commander-in-Chief until the enactment of a Courts Ordinance in 1920 defined their powers in accordance with civil practice and procedure. Few changes were made in the German methods of administration and Political Officers at the coast continued to work through the Liwalis, Akidas and Jumbes. Except where they had shown anti-British sympathies and had consequently been removed from their office, the former German native officials were retained in the service of the Government.

The administrative staff consisted of a few more or less experienced officials lent by the East African Governments and by the Government of the Union of South Africa; others were selected from among military officers of the expeditionary force who applied for political work; some were planters or business men temporarily in khaki and were employed simply *faute de mieux*. At the end of hostilities some retired to private life and others were recalled by or reverted to the Governments from which they had been borrowed. The first years, then, had necessarily to be a period of survey and stock-taking, as the Territory did not start, as did other Protectorates, from small beginnings, but was taken over as a large and going concern already developed, so that real difficulties were encountered in the selection and recruitment of staff. In other departments the absence of experienced officials was likewise felt, and the railways, for instance, had to be carried on by the Military Authorities until 1st April, 1919. New departments were gradually established, those of Agriculture, Education, Forests, Land and Survey in 1920, in which year also the judicial system was initiated and a Chief Justice appointed. It was only possible at first to start departmental activities with a skeleton staff recruited from other colonies and the new-comers had, as a primary duty, to acquaint themselves with local conditions.

The development of natural resources, the expansion of trade and industry, the achievement of financial equilibrium and the establishment of a form of administration cannot appropriately be dealt with in a chapter which is intended to be an account of the organization of the Government during

a period of transition and will receive the attention which is due to them in other sections of this handbook. But it remains to refer to certain subjects which were the aftermath of the war, such as the disposal of enemy property and the abolition of the status of slavery, which belong to the transitional stage and form a distinct chapter in the early history of the Territory, though they are ceasing or have ceased to be of interest except from that standpoint.

The first business of the Civil Administration had been to arrange for the repatriation of ex-enemy subjects from the Territory and the conservation of their property. As regards the former, the Military Authorities had sent German prisoners of war to concentration camps in India and Egypt; but non-combatants were allowed to remain under supervision in the towns or on their farms until after the Armistice, when it was possible to repatriate them to Germany.

Work in connexion with the properties of these ex-enemies fell into three parts: (1) control and conservation, (2) disposal, and (3) liquidation. As the British Forces advanced from the north in 1916, all enemy produce was collected by a Controller of Enemy Merchandise appointed by the Military Authorities, and stocks of cotton, rubber, sisal and coffee were accumulated. The department of the Controller of Enemy Merchandise was, in July, 1917, absorbed in the department of the Custodian of Enemy Property, which had been created in March, 1917, to control, protect and conserve the assets of all enemy subjects and corporations within the Territory. The whole of the enemy property in the northern area was vested in the Custodian by Proclamation No. 5, of May 26th, 1917, and this Proclamation was subsequently extended to include the central and southern areas, which had hitherto remained under military jurisdiction. The Custodian had all the powers of a manager and was authorized to collect debts owing to enemy nationals; to sell all perishable goods, furniture, produce, live stock and growing crops; to grant temporary leases of business premises, and, finally, to apply any funds arising from the disposal of property to the discharge of debts due to British, allied and neutral creditors and to the maintenance of buildings, machinery or the

productivity of the plantations. Efforts were at once made to lease temporarily such estates as were workable and to arrange for caretakers to be placed in charge of the others. In cases where the enemy owners or their agents had remained on the estates, they were permitted to reside on and manage the estates, subject to the financial and general control of the Custodian.

The principal industry of the northern area was the cultivation of sisal, and the leases of these estates were thrown open to public tender, with the proviso that the tenant should clean and replant an area equal to that from which sisal was cut. The result was that not only was there a satisfactory output of sisal, whilst a considerable income was credited to the estate accounts, but the productivity of the estates was to some extent maintained. As all British subjects of military age were employed with the forces, the majority of the lessees were Greeks.

The leasing of the plantations in the central and southern areas was severely handicapped by military operations and by the lengthy period during which they had been neglected. Consequently, little could be done beyond conserving such assets as remained and collecting such produce as was found thereon. It was found possible later on to grant a number of leases of considerable areas for seasons only for the cultivation of cotton, and these areas yielded to the tenants highly satisfactory results.

As business premises and houses in the townships were vacated by the military units, tenants on temporary leases were found for them at reasonable rentals. Movable property in the shape of furniture and accumulated stocks of produce were sold in accordance with the powers vested in the Custodian, though articles of sentimental value were returned to their owners wherever possible.

The first phase, namely, that of taking control of the property of enemy nationals and the disposal of movable or perishable goods, was completed shortly after the end of the war and the subsequent activities of the Custodian were, firstly, the disposal of immovable property and the liquidation of ex-enemy assets. As regards the former, no steps could

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be taken until the fate of the former German colony was determined by the Treaty of Peace, but as soon as this was settled a Proclamation was passed in 1920 empowering the Custodian to sell, by public auction, tender, or private treaty, the immovable property of ex-enemy subjects. This necessitated the compilation of a schedule of all properties, a task which took some time owing to the lack of German land and survey records. Numbers of these were found in the records of the German Land Office and in other district records, which had been buried by the Germans on the approach of the British forces but were unearthed and brought to Dar es Salaam. In many cases the Custodian received assistance from Berlin in tracing titles to township plots and plantations. By the end of 1920 a sufficient number of titles had been found to justify the first sale, and after extensive advertisement, both in the United Kingdom and locally, the first auction was held in Dar es Salaam in May, 1921. A total of over £300,000 was realized from the disposal of the more valuable properties in 1921, an area of over half a million acres changing hands. The sales took place during the period of post-war depression when money was scarce and capital difficult to raise, and numbers of properties were sold for a fraction of their value. The public, however, had clamoured for their early disposal and the result was that most of the valuable township plots and several of the choicest coffee and sisal estates were purchased by Indian and Greek residents. Many properties have since changed hands at a profit of several hundred per cent to the original purchasers. With a view to assisting those who could not lay hands on large sums of ready money and to hastening the liquidation of the properties, the Custodian, after the first sale, accepted payment by instalments spread over four or five years and it is satisfactory to note that the instalments were in nearly every case paid with reasonable punctuality, and that there were only a very few cases of definite default resulting in resumption and re-sale. Until the removal in 1925 of the restrictions on the entry into Tanganyika of ex-enemy nationals and of the embargo on the holding of land by them, the Custodian was debarred from accepting bids on behalf of former ex-enemies. The bulk of the properties had been dis-

posed of by 1924, but a few properties remained unsold and were not finally sold until 1929. A table is appended showing the area of the properties disposed of, the nationality of the purchasers and the total prices paid:

Nationality of Purchaser.	Total Area in square miles.	Price paid.
<i>British—</i>		£
Europeans	973	705,434
Indians	404	374,571
Greeks	228	122,767
Indians in partnership with other nationals	80	55,390
Germans	44	21,007
Portuguese Indians	35	16,280
Syrians	10	11,430
Arabs and local natives	7	8,800
Italians	12	8,626
Rumanians	4	8,460
Danes	20	5,050
French	5	2,055
Yugoslavs	9	2,010
Hollanders	7	1,060
Others	32	1,664
Total	1,870	1,344,604

At the same time that the Proclamation of 1920 was passed empowering the Custodian to dispose of immovable property, the Government had to consider the position in regard to certain classes of private property of which it was either in actual occupation or of which it was anxious to obtain possession. The first category comprised buildings, principally in Dar es Salaam, which were required to accommodate Government officials and for offices. The staff of Government at headquarters was considerably larger than that stationed in Dar es Salaam under the German administration and the Government was faced with the possibility of buildings then occupied as quarters or offices being sold over its head.

In the second category were a number of plantations, mostly undeveloped, the majority being in the Moshi and Arusha districts, which the Government wished to purchase for native occupation and settlement. The Germans had, before the war, admitted to having alienated more land in those areas than was desirable, without due regard to future

tribal requirements, and several farms which provided much-needed pasturage or water facilities had, since their abandonment during the war, been grazed over or cultivated by the natives whose land surrounded them. To eject these native squatters, who in many instances were quite unaware of the boundaries of the farms, would have caused much dissatisfaction. To bid for either category and property in the open market presented almost insuperable difficulties, since, for example, the knowledge that the acquisition of a certain property was essential to the interests of the public service would have encouraged persons to bid up against the Government in the hope of securing the property and then re-selling it to Government at an enhanced valuation. An Ordinance was therefore passed in 1921—the Enemy Property (Retention) Ordinance—empowering Government to acquire such properties as were necessary by declaring them to be Government property, the purchase price to be paid to the Custodian being determined by the High Court. Some one hundred and seven properties were acquired by the Government in this manner.

With the completion of arrangements for the sale and the eventual disposal of immovable property the second phase of the Custodian's activities may be said to have passed. The third phase, the liquidation of all ex-enemy assets, now remained and by the German Property (Liquidation) Ordinance of 1921 the Custodian was empowered to liquidate all such property, pay off all claims and debts due to British nationals resident in the Territory, and to pay the balance into a fund known as the German Liquidation Fund; 4,580 claims, amounting to £5,518,732, were dealt with, of which 2,127 were passed, involving payment of £833,636. The Ordinance also contained a clause permitting sequestered assets up to a maximum of £500 to be released to their former German owners if these could show that they were in necessitous circumstances. This clause, which, incidentally, followed similar legislation in other places, led to some misunderstanding and to the criticism that the Government of Tanganyika was subsidizing German subjects who wished to return to the Territory—an impression which was erroneous.

Any surplus from the Liquidation Fund is payable to the British Clearing Office for the purpose of satisfying similar debts and claims due to British nationals resident in the United Kingdom and British possessions, credit being given to Germany in accordance with the Treaty of Versailles. The total amount realized by the sale of immovable properties since liquidation began amounts to £1,344,604.

It has been necessary to refer at some length to the steps which were taken in regard to the repatriation of ex-enemy nationals and in connexion with the liquidation of their property, firstly because, though they are now ancient history and may well be forgotten, they form a definite chapter in the post-war settlement of the Territory, and secondly, because they occupied so much of the time of the newly constituted Administration. It remains to add that the Ex-enemies Restriction Ordinance of 1922, which forbade the entry of ex-enemies into the Territory without the licence of the Governor, lapsed in 1925, in which year also the surviving prohibitions against ex-enemies, in particular in regard to the holding of land, were removed in their entirety. As a consequence, at subsequent enemy property sales, a number of properties were sold to Germans.

In the absence of a Clearing Office in the Territory the functions of the Custodian of Enemy Property were extended to the payment, from his surplus funds, of claims of British nationals, mostly Indians, against the German Government for loss of property, rights and interests as a result of the war. In this connexion, as a result of awards by the Mixed Arbitral Tribunal, a sum of £110,444 had up to 31st December, 1929, been paid out by the Custodian.

An immediate step which had to be taken by the new Administration was to give effect to Article 5 of the Mandate, which required the elimination of all forms of domestic slavery. ^{Abolition of the status of slavery.}

As a signatory to the General Act of the Anti-Slavery Conference of Brussels, 1890, and to other international treaties relating to the suppression of slavery, Germany took steps to prohibit slave-trading in her East African Protectorate, but permitted the existence of domestic slavery. Whereas Great

Britain abolished the legal status of slavery in Zanzibar in 1897 and in the East Africa Protectorate in 1907, Germany had contented herself with introducing legislation to ameliorate the conditions of the slaves' existence and to make it easier for them to obtain their liberty than formerly. For some years before the war Germany had contemplated the possibility of emancipating all slaves by one stroke of the pen, but she shrank from the great expense which might have to be incurred in compensating slave-owners, and she feared the serious political disturbances which might ensue. The most important step taken was to decree that all slaves born after 1905 should be free; and it was thus thought that, even if the extreme step of abolishing slavery were never taken, slavery would in due course die a natural death and would cease to exist after 1930 or 1940. It is only just, however, to say that the form of slavery in existence in German East Africa was of a mild kind, which might be described as domestic servitude rather than domestic slavery. It had subsequently been customary, since 1899, for the Germans to refer to slaves as retainers, and to owners as masters. Slave-raiding and slave-trading, with their attendant horrors, were things of the past, and under the German law no slave might be sold without consenting to the transaction himself. Married couples might not be separated, and children under twelve years of age might not be taken from their parents. A slave had various privileges, *e.g.* religious freedom had to be accorded to him; marriage could not be denied him; he could claim, from his master, food, board and lodging, and two days free every week; he possessed his own property (but as the master had the right to inherit from his slave, he could claim to supervise the management of the property); he had a certain limited right of inheritance from his master; and his master was bound to support him when he was too old to work.

Under the German law a slave might obtain his freedom in the following ways: ransom, manumission, official grant of letters of freedom (*e.g.* in the case of ill-treatment); passing five years without working as a slave; and failure of heirs on the death of an owner. A female slave also became free if she married a free-man and the latter paid the bridal price to

the owner, and when an owner acknowledged a child by his slave as his offspring.

Before legislation was enacted to provide for the abolition of slavery, a general survey of the then existing conditions was made. The reports of the District Officers showed that the figures accepted by the Germans in 1913 relating to the number of slaves in the Territory were of doubtful accuracy and, further, that the estimate appeared to have been framed upon a total misinterpretation of the status of slavery. For example, in the district of Ujiji, formerly the greatest slavery depot in Central Africa, which was credited by the Germans with no less than 20,000 slaves, it was discovered that slavery was practically non-existent. Similarly, in the districts of Songea and Iringa, where some 15,000 natives were recorded as under the ownership of pagan masters, former war captives had been absorbed into the tribes on terms of equality and were not even spoken of as 'slaves'. But while slavery was practically non-existent among the pagan tribes of the interior, domestic servitude was still prevalent in the coastal belt, possibly owing to long association with Zanzibar and to Islamic tradition, though deaths and the opportunities afforded to natives by the war to sever their connexion with unpopular masters had materially reduced the figures presented to the German Government in 1913.

Legislation for the abolition of slavery was enacted in 1922. The non-committal but unfriendly attitude of the Germans towards this institution had prepared the Arab and Swahili masters for its eventual disappearance, and with the occupation of the Territory by the British, whose dealings with the problem in other parts of Africa were well known, the elimination of domestic servitude was accepted as a foregone conclusion.

(f) RECENT YEARS

With the year 1925 the period of post-war reconstruction may be said to have reached its conclusion. Revenue and expenditure, apart from the Railways, were in a fair way to balancing; the bulk of the ex-enemy properties had been disposed of and were starting to reproduce, while native

agriculture was again upon its feet. The essential departments of Government had been established, and the personnel had settled down to the problems which lay before them. In this year, too, we must pass from history to the present, and it remains to sum up, chronologically, a record of progress which, for the most part, is described in greater detail in other parts of this handbook.

The revival of Tanganyika coincided with a quickening of public interest at home in the East African dependencies. This had, for long, been directed to other and more important issues, and the man in the street had little knowledge of East African problems or East African geography. The name of Zanzibar had afforded comic relief on the stage, and the Conference at Kikuyu, summoned to discuss important matters of religious policy in Central Africa, had achieved some degree of notoriety; but with these exceptions, the average citizen before the war knew little of the East African dependencies, of the responsibilities which burdened those entrusted with their administration or of the obligations which His Majesty's Government had undertaken towards the several million beings who populated those territories, while after the Armistice the future destiny of this part of the Empire stood little chance of consideration amid the welter of post-war politics. Political attention in England was first focused once more on East African affairs as the result of the Indian question in Kenya, while, at the same time, mercantile interests, searching for new markets, became alive to the possibilities of trade expansion in this part of the Empire. So, for reasons partly political and in part economic, a Commission, under the chairmanship of the Honourable William Ormsby-Gore, M.P., was appointed to visit East Africa and to inquire locally into certain questions, more particularly the development of communications. The Commission in 1925 issued a report which has had far-reaching consequences in Tanganyika, in that it has resulted in the provision of loan funds from which essential capital works of considerable magnitude have since been undertaken.

1925. In the meantime Sir Donald Cameron, K.B.E., who had been Chief Secretary to the Government of Nigeria, was

appointed to the Governorship of Tanganyika and assumed duty in April, 1925. From this year dates the inception of 'indirect rule', a term which has been used conveniently to denote the system of native administration through the chiefs, to which reference is made, at greater length, in Chapter V. (c).

On the recommendations of the Report of the East African Commission, an East African Trade and Information Office was established in London and opened at the end of the year. The Office, which is in charge of His Majesty's Trade Commissioner in East Africa, represents the interests of the various East African territories, including Tanganyika, and has the following functions:

- (a) Advertising and supplying information to the press.
- (b) Keeping in touch with and reporting on markets.
- (c) Investigating complaints as to produce and trade generally.
- (d) Reporting on new avenues for East African trade.
- (e) Maintaining and displaying exhibits of produce.
- (f) Affording information to commercial interests and for the encouragement of private enterprise.
- (g) Working for the reduction and stability of freights and for a regular shipping service.

An Education Conference was held in Dar es Salaam in October between representatives of the Government and of missionary bodies, from which resulted the financial recognition by Government of missionary assistance towards native education, a vital step in educational progress. In this year also discrimination against ex-enemies was finally abandoned and Germans became entitled to enter the Territory and to hold land on the same terms as nationals of other states.

At the end of 1925 His Majesty's Government signified its approval, in principle, of the grant of a Development Loan for the extension of communications in East Africa, and from this loan the railway extensions from Tabora to Mwanza and Moshi to Arusha were subsequently financed. This fund also provided much-needed improvements to the railways and the construction of feeder roads. The Amani Institute was reorganized on a contributory basis with the

assistance of other British territories in the East African group, and later with the aid of the Empire Marketing Board.

1926. The year 1926 was marked by the establishment of a Legislative Council to which unofficial members are nominated, and by the enactment of a new Native Authority Ordinance designed to meet the needs of the new Native Administrations.

The departments of Lands, Surveys and Mines were separated from the joint control of one departmental head and became separate units. A Department of Labour was formed to investigate labour problems in the Territory, and a Geological Survey Department, whose head had been selected at the end of the previous year, came into being.

The Tabora-Mwanza railway was opened for traffic as far as Shinyanga.

1927. Early in the year important fiscal legislation was passed, substituting a Trades Licensing Ordinance for the former enactment and abolishing the unpopular and unworkable Profits Tax Ordinance.

A customs agreement was made between Kenya and Uganda, supported by statutory authority, to remove the double duty on goods passing between the three territories.

The railway extension from Moshi to Arusha was commenced in October. Preliminary surveys of a line from Dodoma to the southern area were completed and a survey of the projected railway from Manyoni to the Iramba plateau was finished.

The newly constructed Dodoma-Iringa road was opened for traffic in June.

1928. The Territory was visited by His Royal Highness the Prince of Wales in November; and in the month of September four members of the House of Commons, forming a delegation from the Empire Parliamentary Association, arrived as the guests of the Territory and made a tour of Tanganyika.

The Territory was also visited by a Special Commission under the chairmanship of Sir Edward Hilton-Young, M.P., which was appointed to consider the question of federation or closer union between the East African dependencies. At the moment of writing the proposals which His Majesty's

Government have formulated as the result of the recommendations of the Commission are awaiting consideration by a Joint Committee of both Houses of Parliament, but in view of the public interest which the Report and subsequent developments have aroused it may be convenient to recite the terms of reference of the Commission. These were:

1. To make recommendations as to whether, either by federation or some other form of closer union, more effective co-operation between the different Governments in Central and Eastern Africa may be secured, more particularly in regard to development of transport and communications, customs tariffs and customs administration, scientific research, and defence.

2. To consider which territories could, either now or at some future time, be brought within any such closer union, and in particular how best to give effect to Article X of the Mandate for Tanganyika Territory, which provides that the Mandatory may constitute the Territory into a customs fiscal and administrative union or federation with adjacent territories under its own sovereignty or control, provided always that measures adopted to that end do not infringe the provisions of the Mandate.

3. To make recommendations in regard to possible changes in powers and composition of the various Legislative Councils of the several territories (a) as a result of the establishment of any Federal Council or other common authority; (b) so as to associate more closely in responsibility and trusteeship of government the immigrant community domiciled in the country; and (c) so as ultimately to secure more direct representation of native interests in accordance with 4 below.

4. To suggest how the dual policy recommended in the Conference of East African Governors (i.e. the complementary development of native and non-native communities) can best be progressively applied in political as well as economic spheres.

5. To make recommendations as to what improvements may be required in internal communications between the various territories so as to facilitate working of federation or closer union.

6. To report more particularly on the financial aspect of any proposals which they may make under any of the above headings.

The Tabora-Mwanza railway was completed and the final section opened to traffic on 15th August.

1929. The aeroplane purchased by the Government of Tanganyika for aerial survey work made its first flight over Dar es Salaam in March.

In May, Sir Samuel Wilson, G.C.M.G., Permanent Under-Secretary of State for the Colonies, visited the East African dependencies, including Tanganyika, to discuss with local bodies the recommendations of the Report of the East Africa Commission of 1928 on federation.

In September an Agricultural and Industrial Exhibition was held in Dar es Salaam representative of the natural resources and trade of the country.

The Moshi-Arusha railway was opened to traffic in December, in which month, also, the budget session of the Legislative Council was held at Arusha.



ON THE MOROGORO-KISSAKI ROAD
The Uluguru Mountains in the background

CHAPTER V

GOVERNMENT AND GOVERNMENT ACTIVITIES

(a) THE MANDATE

MANDATES are of three kinds, having been divided at the Peace Conference into the ugly but convenient classification of A, B and C. Class A applies to the countries of Iraq, Syria and Palestine, whose independence "can be provisionally recognized, subject to the rendering of administrative advice and assistance, until they are able to stand alone". Class B comprises the ex-German Central African possessions, in which the Mandatory Power is responsible for the administration and undertakes to promote the moral and material welfare of the people. Class C applies to those countries like South-West Africa which "can best be administered under the laws of the Mandatory as integral portions of its territories, subject to safeguards in the interest of the indigenous population". The Mandate for Tanganyika is of Class B. The principles which it lays down for the well-being of the inhabitants do not differ from those which British colonial policy has long adopted for other British possessions not held under mandate, in which ideas of trusteeship and responsibility for the development of backward races are no new thing.

The terms of the Mandate under which the Territory is held are as follows:

Articles 1 and 2 recite in detail the boundaries of the territory and provide for the appointment of Commissioners to demarcate the boundary between the territory and the Belgian mandated territory of Ruanda-Urundi.

Article 3

The Mandatory shall be responsible for the peace, order and good government of the territory, and shall undertake to promote to the utmost the material and moral well-being and the social progress of its inhabitants. The Mandatory shall have full powers of legislation and administration.

Article 4

The Mandatory shall not establish any military or naval bases, nor erect any fortifications, nor organize any native military force in the territory except for local police purposes and for the defence of the territory.

Article 5

The Mandatory:

(1) shall provide for the eventual emancipation of all slaves and for as speedy an elimination of domestic and other slavery as social conditions will allow;

(2) shall suppress all forms of slave trade;

(3) shall prohibit all forms of forced or compulsory labour, except for essential public works and services, and then only in return for adequate remuneration;

(4) shall protect the natives from abuse and measures of fraud and force by the careful supervision of labour contracts and the recruiting of labour;

(5) shall exercise a strict control over the traffic in arms and ammunition and the sale of spirituous liquors.

Article 6

In the framing of laws relating to the holding or transfer of land, the Mandatory shall take into consideration native laws and customs, and shall respect the rights and safeguard the interests of the native population.

No native land may be transferred, except between natives, without the previous consent of the public authorities, and no real rights over native land in favour of non-natives may be created except with the same consent.

The Mandatory will promulgate strict regulations against usury.

Article 7

The Mandatory shall secure to all nationals of States Members of the League of Nations the same rights as are enjoyed in the

territory by his own nationals in respect of entry into and residence in the territory, the protection afforded to their person and property, the acquisition of property, movable and immovable, and the exercise of their profession or trade, subject only to the requirements of public order, and on condition of compliance with the local law.

Further, the Mandatory shall ensure to all nationals of States Members of the League of Nations, on the same footing as to his own nationals, freedom of transit and navigation, and complete economic, commercial and industrial equality; provided that the Mandatory shall be free to organize essential public works and services on such terms and conditions as he thinks just.

Concessions for the development of the natural resources of the territory shall be granted by the Mandatory without distinction on grounds of nationality between the nationals of all States Members of the League of Nations, but on such conditions as will maintain intact the authority of the local Government.

Concessions having the character of a general monopoly shall not be granted. This provision does not affect the right of the Mandatory to create monopolies of a purely fiscal character in the interest of the territory under mandate, and in order to provide the territory with fiscal resources which seem best suited to the local requirements; or, in certain cases, to carry out the development of natural resources either directly by the State or by a controlled agency, provided that there shall result therefrom no monopoly of the natural resources for the benefit of the Mandatory or his nationals, directly or indirectly, nor any preferential advantage which shall be inconsistent with the economic, commercial and industrial equality hereinbefore guaranteed.

The rights conferred by this Article extend equally to companies and associations organized in accordance with the law of any of the Members of the League of Nations, subject only to the requirements of public order, and on condition of compliance with the local law.

Article 8

The Mandatory shall ensure in the territory the complete freedom of conscience and the free exercise of all forms of worship which are consonant with public order and morality; missionaries who are nationals of States Members of the League of Nations shall be free to enter the territory and to travel and reside therein, to acquire and possess property, to erect religious buildings and to

open schools through the territory; it being understood, however, that the Mandatory shall have the right to exercise such control as may be necessary for the maintenance of public order and good government, and to take all measures required for such control.

Article 9

The Mandatory shall apply to the territory any general international conventions already existing, or which may be concluded hereafter, with the approval of the League of Nations, respecting the slave trade, the traffic in arms and ammunition, the liquor traffic, and the traffic in drugs, or relating to commercial equality, freedom of transit and navigation, aerial navigation, railways, postal, telegraphic and wireless communication, and industrial, literary and artistic property.

The Mandatory shall co-operate in the execution of any common policy adopted by the League of Nations for preventing and combating disease, including diseases of plants and animals.

Article 10

The Mandatory shall be authorised to constitute the territory into a customs, fiscal and administrative union or federation with the adjacent territories under his own sovereignty or control; provided always that the measures adopted to that end do not infringe the provisions of this Mandate.

Article 11

The Mandatory shall make to the Council of the League of Nations an annual report to the satisfaction of the Council, containing full information concerning the measures taken to apply the provisions of this Mandate.

A copy of all laws and regulations made in the course of the year and affecting property, commerce, navigation or the moral and material well-being of the natives shall be annexed to this report.

Article 12

The consent of the Council of the League of Nations is required for any modification of the terms of this Mandate.

Article 13

The Mandatory agrees that if any dispute whatever should arise between the Mandatory and another Member of the League of Nations relating to the interpretation or the application of the

provisions of the Mandate, such dispute, if it cannot be settled by negotiation, shall be submitted to the Permanent Court of International Justice provided for by Article 14 of the Covenant of the League of Nations.

States Members of the League of Nations may likewise bring any claims on behalf of their nationals for infractions of their rights under this Mandate before the said Court for decision.

(b) DEPARTMENTS OF GOVERNMENT

By an Order-in-Council dated 22nd July, 1920, Tanganyika Territory is administered by a Governor appointed by His Majesty and by a commission under his sign manual and signet, according to the powers granted to him by the Order and by his commission, and according to the instructions given to him from time to time by His Majesty or by Order-in-Council. The Governor.

During the absence or incapability of the Governor, or whenever the office of Governor is vacant, the Chief Secretary to the Government is appointed to act as Governor, or, if he is absent or unable to act, such person or persons as may be appointed by His Majesty, and in default of such appointment, the next senior member of the Executive Council. If the Governor is temporarily absent for a short period from the seat of Government, he usually appoints the Chief Secretary, or, if the latter is also absent or unable to act, some other person, to be his Deputy.

The first Governor of Tanganyika was Sir Horace Byatt, K.C.M.G., who was appointed to this office on 25th November, 1920. He was succeeded by Sir Donald Cameron, K.C.M.G., K.B.E., who was appointed on 5th September, 1924, and assumed duty on 3rd April, 1925.

The Governor is assisted by an Executive Council to advise him on such questions as the law prescribes should be dealt with by the Governor in Council and on such other matters as he may think fit to submit to it, but the Council is purely an advisory body and the decision in all such questions remains with the Governor, who may act in opposition to the advice tendered to him. In that case, however, he is bound to report his action to the Secretary of State, giving the The Executive Council.

grounds and reasons for his action. Under the Tanganyika Order-in-Council of 1920, the Council consisted of the Chief Secretary to the Government, the Attorney-General, the Treasurer, and the Director of Medical and Sanitary Services. Subsequently, the Director of Education and the Secretary for Native Affairs were added to the Council by the Tanganyika Order-in-Council of 1926.

The following are at present the holders of the offices which constitute the Executive Council:

The Chief Secretary	Mr. D. J. Jardine, O.B.E.
The Attorney-General	Mr. C. B. Francis.
The Treasurer	Mr. R. W. Taylor, C.B.E.
The Director of Medical and Sanitary Services	Dr. J. O. Shircore, C.M.G.
The Director of Education	Mr. S. Rivers-Smith, C.B.E.
The Secretary for Native Affairs .	Mr. P. E. Mitchell, M.C.

The Legislative Council.

The Council was constituted by the Tanganyika Order-in-Council of 19th March, 1926, and the first session was held in Dar es Salaam in December of that year. The Council consists of the Governor as President, thirteen official members and ten unofficial members. All members are required to take the oath of allegiance to His Majesty. The official members consist of those persons who are discharging the functions of:

The Chief Secretary.
 The Attorney-General.
 The Treasurer.
 The Director of Medical and Sanitary Services.
 The Director of Education.
 The Secretary for Native Affairs.
 The General Manager of the Railways.
 The Provincial Commissioner, Eastern Province.
 The Comptroller of Customs.
 The Director of Public Works.
 The Land Officer.
 The Director of Agriculture.
 The Postmaster-General.

The unofficial members are nominated by the Governor,

subject to disallowance or confirmation by His Majesty, and hold office for a term of five years. They are nominated without regard to the representation of any particular race, interest or public body, and are selected as being those who are most fitted to assist the Governor in the exercise of his responsibilities. Although it is not definitely prescribed in the Order-in-Council, it is contemplated that a proportion of the seats will be reserved for Africans when suitable persons become available, but there is not yet an African with sufficient command of the English language or with general education who could be appointed to take part in the deliberations of the Council.

The following are at present the unofficial members of the Council:

Brigadier-General L. B. Boyd-Moss, C.M.G., D.S.O.

Mr. N. F. Howe-Browne.

Mr. A. Khimji.

Major W. C. Lead, M.C.

Mr. H. R. Ruggles-Brise, M.C.

Mr. W. Stewart.

Mr. M. P. Chitale.

Lieutenant-Colonel J. M. Llewellyn, C.B.E.

Major J. S. K. Wells, C.B.E.

(One vacancy.)

Provision is made for the appointment of extraordinary members when the Governor wishes to obtain the views of any person upon some particular matter before the Council.

The Legislative Council may sit at such places in the Territory as the Governor may appoint, and the sessions were invariably held in Dar es Salaam until December, 1929, when the Council assembled at Arusha, the headquarters of the Northern Province.

A session must be held at least once a year, and there must not be an interval of more than twelve months between the last sitting of one session and the first sitting of the next following session.

The laws of the Territory are enacted by the Governor with the advice and consent of the Legislative Council. The Governor has the right to veto any Ordinance, and on a Bill

being presented to the Governor after being passed by the Legislative Council he may either assent, dissent or reserve it for the signification of the Royal pleasure. Notice of His Majesty's approval or disallowance is given through the Secretary of State for the Colonies in the usual manner, and notification made in the *Gazette*.

The proceedings or minutes of the Council are published in the *Gazette* immediately after each meeting and a 'Hansard', or verbatim record of the proceedings, is published and printed as soon as possible after each part of a session.

Principal Departments of Government¹

The principal Departments of Government are as follows:

Administration.—The Territory is divided into eleven provinces, each under a Provincial Commissioner, who is assisted by District Officers in charge of districts. The District Officers are themselves assisted by Administrative Officers, and by cadets who are administrative officers of under two years' service.

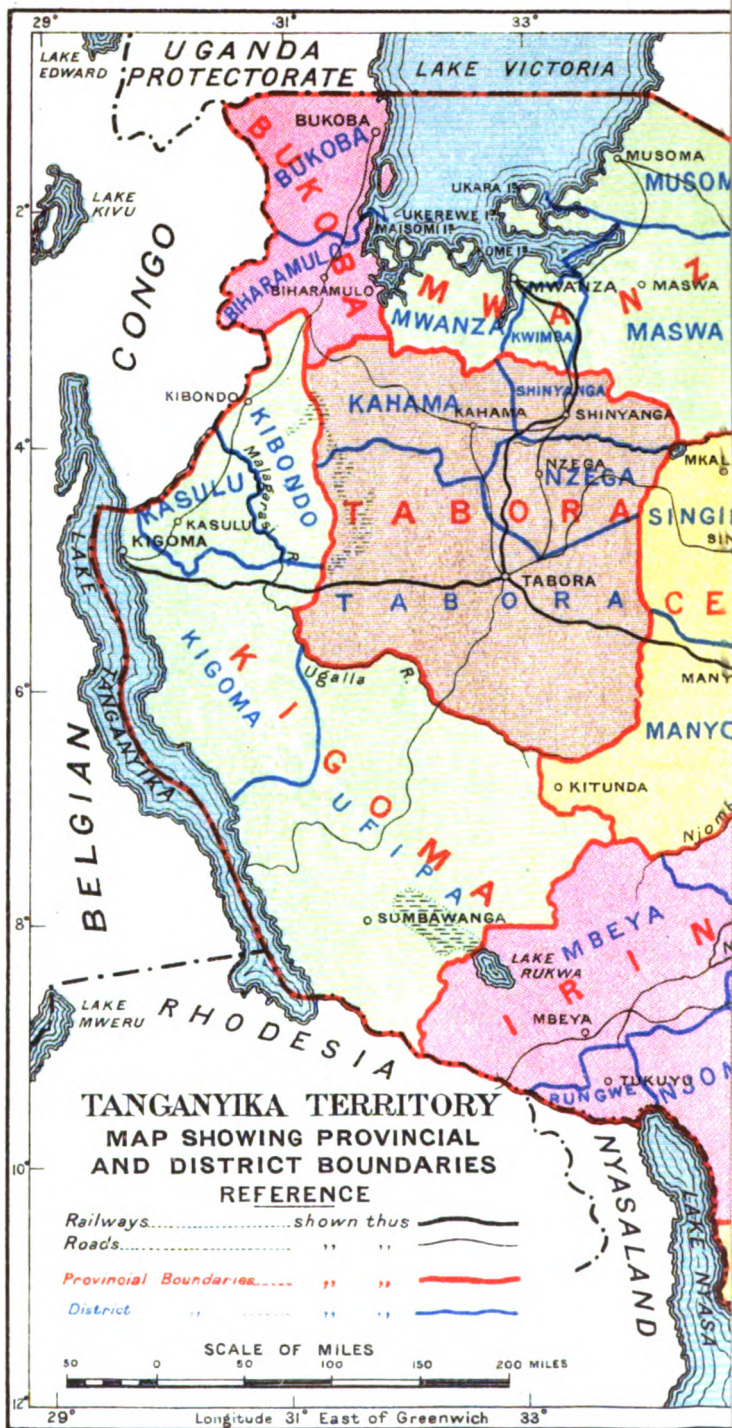
The following is a list of the provinces and districts into which the Territory is divided for administrative purposes:

<i>Province.</i>	<i>Districts.</i>
Bukoba	Bukoba, Biharamulo.
Central	Dodoma, Singida, Kondoa, Manyoni, Mpwapwa,* Mkalama.*
Eastern	Dar es Salaam, Rufiji, Bagamoyo, Morogoro, Kilosa.
Iringa	Iringa, Njombe, Rungwe, Mbeya.
Kigoma	Kigoma, Kasulu, Kibondo, Ufipa.
Lindi	Lindi, Mikindani, Kilwa, Masasi, Newala,* Tunduru.*
Mahenge	Mahenge, Songea.
Mwanza	Mwanza, Maswa, Musoma, Kwimba.
Northern	Arusha, Masai, Mbulu, Moshi.
Tabora	Tabora, Kahama, Nzega, Shinyanga.
Tanga	Tanga, Usambara, Pangani, Handeni, Pare.

Those marked with an asterisk are in course of formation.

Administrative Officers are responsible for the peace, tranquillity and good government of their areas; they are the executive authority and carry out the expressed policy of the Government; they are empowered to hold Courts and to

¹ *Note.*—The headquarters of the Department is given in brackets.



London: Macmillan

administer justice, subject to the direction of the High Court, being, for this purpose, invested with certain judicial powers which are described later in this chapter. They are responsible for the collection of revenue, particularly for the supervision of the collection of the hut and poll tax, and assist the Native Administrations in the preparation of their budgets and in utilizing the moneys to the best advantage. In the smaller districts where representatives of other departments would not be fully occupied, the Administrative Officers act as agents for other branches of the Administration; they are constantly on tour, hearing appeals from native tribunals, inspecting records of native courts, advising on matters relating to native welfare, and generally they assist and guide the chiefs and elders in the establishment and progress of their Native Administrations.

The Administrator-General (Dar es Salaam), with three assistants, administers the estates of persons who have died in the Territory, and is also the Public Trustee. He is, in addition, Registrar-General of Marriages, Registrar-General of Births and Deaths, Registrar of Companies and Trade Marks and the Official Receiver in Bankruptcy. A branch office of the department is about to be established at Tanga.

The Agricultural Department (Morogoro) is concerned with the general encouragement and supervision of agricultural activities, both native and non-native; entomological problems; the control and investigation of plant pests and diseases, and experimentation with new crops; dissemination of advice and pamphlets on agricultural subjects, etc. The Director is assisted by a Deputy and a field staff of thirty-five Agricultural Officers and ten agricultural assistants, who are stationed in the various districts. To the scientific side of the department are attached an entomologist and mycologist, while two cotton investigators are specially employed on problems connected with that crop. The headquarters of the department were formerly at Dar es Salaam but were moved in 1930 to Morogoro. The Director is a member of the Legislative Council.

The Audit Department (Dar es Salaam) is a branch of the Colonial Audit Department which, under a Director of

Colonial Audit, has its headquarters in London (58 Victoria Street, London, S.W.). The headquarters of the department in Tanganyika are at Dar es Salaam and it has a branch office at Tanga. Tours of inspection to the out-stations are made at regular intervals. The staff of the department consists of the Auditor, the Deputy Auditor, and seven Assistant Auditors, with such clerical assistance as may be necessary. The Auditor is responsible for the audit of the Government accounts, advises the Government of any financial matters on which he may be consulted, and watches the working of all branches of the financial system with a view to amendment and improvement where desirable.

The Customs Department (Dar es Salaam).—This department is charged with the collection of customs revenue and the administration of the customs preventive service, and advises on all tariff matters. The Comptroller is assisted by a Deputy and has a staff of twelve Supervisors. The Comptroller is a member of the Legislative Council.

The Education Department, (Dar es Salaam).—The department is under the Director of Education, assisted by a Deputy Director, forty Superintendents of Education, sixteen Industrial Instructors and others. The department is principally concerned with native education, whether given directly in Government schools or through the medium of the Missions, and also supervises and advises on the education of non-natives. The Superintendents are headmasters or assistant masters in the Government schools for natives and act as inspectors of village and mission schools. The Director is a member of the Executive and Legislative Councils.

The Enemy Property Department (Dar es Salaam) was established in 1917 for the purpose of taking over the control, and, subsequently, of disposing and liquidating the property of ex-enemy nationals in the Territory. The department is a temporary organization and its labours are now within sight of completion, the staff consisting only of the Custodian and a few non-European clerks. All expenditure in connexion with the department is met from a small percentage on the sums realized by the disposal of enemy property and the department involves no charge on Government funds.

The Forestry Department (Lushoto) is under a Conservator of Forests, assisted by a Senior Assistant and eight Assistant Conservators and eleven Foresters. The department is charged with the preservation and regeneration of the forests of the country.

The Game Department (Kilosa).—It falls to this department to take steps to administer the Game Laws and to prevent and detect offences thereunder. The department also watches the fauna generally, with a view to the better protection of any particular species which may show signs of diminishing. At the same time it has a special branch to control the depredations of dangerous and destructive game which do damage to life and plantations. The department is in charge of a Game Warden, assisted by five Game Rangers and a staff of five Cultivation Protectors and a number of native game scouts.

The Geological Survey Department (Dodoma) is in charge of a Director, with a staff of field assistants. The department has, since its formation in 1925, been conducting a systematic geological survey of the Territory. It also undertakes mineral determinations, assays and chemical analyses for prospectors, and a separate branch is engaged in well-boring and in advising where boring for water is likely to meet with the best chance of success. The department publishes valuable pamphlets from time to time on geological subjects.

The Judicial Department (Dar es Salaam) is composed of the Chief Justice, two Puisne Judges and seven Magistrates, with a Registrar and his Deputy. The High Court is situated at Dar es Salaam, but frequent circuits are held by the Judges in the larger centres. Two Magistrates are stationed at Dar es Salaam, one each at Tanga and Mwanza and one at Arusha for work in the Northern Province. There is a Court of Appeal for Eastern Africa, to which reference is made in a later part of this chapter.

The King's African Rifles (6th Battalion, Dar es Salaam; 2nd Battalion, Tabora).—The organization is fully dealt with later in this chapter.

The Labour Department (Morogoro) is in charge of a Labour Commissioner, who is a senior officer seconded from the Provincial Administration, with a staff of Labour Officers,

who, as a rule, are also seconded administrative officers. The department was formed in 1926 to advise on all matters relating to native labour and to secure the better observance of the labour laws. For the latter purpose the Labour Officers have limited judicial functions. The department closely watches labour legislation and conditions in other African countries, and has enabled many improvements to be effected in the housing, medical treatment and diet of native labour.

The Land Office (Dar es Salaam) was established as a separate unit in 1926, having previously dealt also with all work in connexion with surveys and mines. The Land Officer advises on land applications and arranges for the disposal by auction of land to be alienated. The office is the principal registry of titles and documents. The Land Officer is a member of the Legislative Council.

The Law Officers (Dar es Salaam) of the Territory are the Attorney-General, the Solicitor-General and three Crown Counsel. The Attorney-General is a member of the Executive and Legislative Councils, and is the chief legal adviser to the Government. He drafts all Government Bills and his department prosecutes in the more important criminal cases.

The Medical and Sanitation Department (Dar es Salaam) is divided into three branches:

- (a) Medical,
- (b) Sanitation,
- (c) Laboratory,

under a Director of Medical and Sanitary Services, who is a member of the Executive and Legislative Councils. The organization of the department is dealt with in a later chapter.

The Mines Department (Dar es Salaam) is under a Commissioner of Mines, with a Senior Inspector and Inspectors and Assistant Inspectors of Mines, who are responsible for the inspection of mines and the carrying out of the mining laws.

The Posts and Telegraphs Department (Dar es Salaam) consists of:

- (a) Headquarters administrative staff: Postmaster-General and Deputy Postmaster-General.
- (b) An executive branch with senior postmasters or postmasters in charge of postal districts which are grouped, for administrative purposes, under postal areas in charge of District Surveyors, the headquarters of the three postal areas being at Dar es Salaam, Tanga and Tabora.
- (c) Accounts and stores branch under the Chief Accountant and Chief Storekeeper.
- (d) Engineering branch under a Chief Telegraph Engineer, with a staff of telegraph engineers and inspectors.

The Postmaster-General is a member of the Legislative Council.

The Press (Dar es Salaam) is in charge of the Government Printer, assisted by three Press Superintendents, three operators, a proof reader, and overseer. The Government Press prints and binds departmental forms and books, reports, sessional papers, Blue Books, Estimates, Ordinances, and also the *Gazette*, which is published weekly. The native newspaper *Mambo Leo*, which is published under the auspices of the Government, is also printed by the Government Press. There are three linotype machines installed.

The Public Works Department (Dar es Salaam) is under a Director of Public Works, with a Deputy and a staff of engineers and the necessary assistants for the various branches. The department is in charge of the construction, supervision and maintenance of all public buildings and roads (except roads maintained by the Administration), water-works and drainage, and carries out investigations for water supplies. The department comprises civil, mechanical and hydraulic branches. The Director is a member of the Legislative Council.

The Railway Department (Dar es Salaam) is divided into the following branches:

- (a) Management and Accounts, Stores.
- (b) Engineering.
- (c) Locomotive and Dockyard.
- (d) Traffic and Wharves.
- (e) Ports, Harbours, Navigation and Lake Steamship Service.
- (f) Electricity Supply.

It is responsible for the maintenance and running of the Tanganyika Railways and Marine, and for the supply of electricity in towns where there is a Government installation. The General Manager is a member of the Legislative Council.

The Secretariat (Dar es Salaam) is in charge of the Chief Secretary, who is the chief administrative officer of the Government, and whose office constitutes the headquarters staff of the Territory. He is responsible to the Governor for the whole of the administrative work and is the channel of communication between the Governor and departments. He is a member of the Executive and Legislative Councils. He is assisted by a Deputy and two Assistant Chief Secretaries, six Assistant Secretaries, and three Superintendents in charge of registration and correspondence. To the Secretariat is attached the Secretary for Native Affairs and his Assistant, who are seconded from the Provincial Administration. This officer advises on all matters relating to native affairs, but has no executive powers. He also is a member of the Executive and Legislative Councils.

The Legislative Council (Dar es Salaam).—An Assistant Secretary acts as Clerk of the Executive and Legislative Councils.

The Survey Department (Dar es Salaam) is under a Director of Surveys, with a field staff of twenty-five Surveyors. At headquarters is a computing and drawing office with a Chief Computer and a Chief Draughtsman and the necessary assistants. The survey of township plots and all alienated land is conducted by the department either through its own surveyors or through the medium of licensed surveyors, when these are available. The department possesses an aeroplane and commenced aerial surveys in 1929. It is proposed to extend these in future.

The Transport Department (Dar es Salaam) is under a Transport Officer and a staff of assistants and mechanics. The department is responsible for the handling of all Government stores and for the maintenance and repair of all Government vehicles.

The Treasury (Dar es Salaam).—The Treasurer, who is a member of the Executive and Legislative Councils and the

Currency Officer for the Territory, has a staff consisting of a Deputy, three Senior Assistant Treasurers and nine Assistant Treasurers, together with the necessary clerical staff. He is the chief accounting officer of the Government, and it is his duty, amongst other things, to see that proper systems of accounts are established and maintained in all Government departments and that proper provision is made for the safe keeping of public money and Government stores. Branch offices of the Treasury are established at Tanga, Tabora and Mwanza.

The Tsetse Research Department (Kondoa) was formed as a separate unit in 1928 under a Director of Tsetse Research, assisted by a Deputy and a staff with scientific qualifications. The department is engaged in the investigation of the tsetse fly problem in all its aspects.

The Veterinary Department (Mpwapwa) is under the Director of Veterinary Services and a Deputy, with a staff consisting of fifteen Veterinary Officers and twenty-four Stock Inspectors. The department is charged with the control of animal diseases and the improvement of the live stock of the country, and, in general, advises on all matters in connexion with veterinary science and animal husbandry. There is an excellent laboratory at Mpwapwa and a research staff under a pathologist who is engaged on research work on animal diseases and, in particular, on animal trypanosomiasis.

Correspondence should be addressed, as far as possible, to the head of the department concerned. In cases of doubt it may be sent to the Provincial Commissioner of the province or to the Chief Secretary, who will see that the inquiry is forwarded to the proper quarter. Communications intended for the Governor should be addressed to the Chief Secretary. In all communications to the Government, a single subject only should be dealt with in each letter, and reference to previous correspondence, if any, should always be given. Communications on official matters should not be addressed to officers by name—for instance, to the official signing the letter—as delays will ensue if he has been transferred to some other station or has proceeded on leave.

Correspondence and interviews.

If an interview is desired with the Governor, a communica-

tion should be addressed to the Chief Secretary stating the subject upon which the interview is desired.

(c) NATIVE ADMINISTRATION

System of
native ad-
ministration.

The system of native administration which had been adopted by the German Government has been described in a previous chapter. To recapitulate briefly, it was a system inherited from a form of Arab administration on the coastal belt whereby that part of the country which was within the sphere of influence of the Sultan of Zanzibar was ruled through the agency of native officials called "Akidas", usually men of Arab or Swahili extraction, who had executive and judicial powers over the inhabitants and were responsible for the collection of taxes. It goes without saying that such officials, unless most closely supervised, were not immune from corruption and, in the words of a German official report, were "in the habit of resorting to oppression and fraud, which made the Administration detested by the people". Moreover, a system under which the government was conducted through alien intermediaries, so far from being constructive, actively promoted the disintegration of such tribal organization as had previously existed.

In the transitional period which followed the British military occupation of German East Africa, it was thought that it would have been imprudent suddenly to break up a system which had been in force for so long, without substituting some other policy which would have taken time to evolve, and that any attempt to reconstruct on insecure foundations would have been premature. The people themselves were still recovering from the effects of the campaign and had yet to accustom themselves to their new mentors; the administrative staff was not only new to Tanganyika but, in some cases, to Africa also; while, lastly, the Government was fully occupied with winding up war problems and with the business of starting the machinery anew in each departmental sphere. The Akida system, therefore, was maintained in a modified form, but under closer supervision by the District Officers, pending a gradual survey of the situation. Endeavours were made to



[Photo by E. C. Richards]

NATIVE HOUSE, NYAKYUSA TRIBE, RUNGWE DISTRICT

set up some form of native authority and in 1923 an Ordinance (the Native Authority Ordinance) was enacted to confer powers upon administrative officers, native chiefs and headmen to issue orders and regulations for the maintenance of order, the prevention of crime, etc. Although this legislation purported to be a *Native Authority Ordinance*, these orders and regulations were in practice more frequently issued by the administrative officers themselves, and with the gradual removal or disappearance of the intermediaries through whom contact between the Government and the native had previously been maintained, the tendency was for District Officers to exert a more direct influence on native affairs. But direct, almost personal, administration by a handful of British officials is, in a country of several million inhabitants, a physical impossibility and, moreover, does nothing to secure the future of the natives in their capacity as members of the State in order that (in the words of Article 22 of the Covenant of the League of Nations) they may be able "to stand by themselves" as a section of the community. It was necessary, therefore, to seek some alternative both to the German system and that of direct administration through British officials. For the introduction of this political change the abolition of tribute and service in 1925 afforded an opportunity.

It is necessary to explain here that, until that year, the obligation of the native did not rest with the payment of hut and poll tax, since, in accordance with custom, the tribesmen rendered to the chiefs an annual tribute which was payable either in kind or in service, given in the form of so many days' free labour during the year on the chief's gardens and plantations. The result was that the total obligations of the native, expressed in terms of cash, were not fixed, and that he was unprotected from uncertain exactions demanded by his chiefs at their will and pleasure. When, therefore, the amount payable by the native in direct taxation in the form of an annual hut and poll tax was raised in 1925, the opportunity was taken to assess the value of the privileges of the chiefs and to translate them into a fixed sum of money. The amount at which this tribute and service were assessed was thence-

forward added to the hut and poll tax and paid into the treasuries of the tribal authorities, or Native Administrations as they came to be called, which were constituted at the same time. The chiefs themselves, whose incomes hitherto had been precarious and inconstant, were then compensated by the receipt of fixed salaries paid from the native treasuries. These Native Administrations consisted of that group of persons in whom was vested, by tribal custom, the control of the affairs of the tribe, and are, as a rule, composed of councils of elders presided over by chiefs selected by the people themselves. It should be explained here that the authority in any Bantu tribe is corporate and not individual, and the chief is not an autocratic ruler but rather the permanent head of an association of lesser chiefs, elders and the holders of various hereditary offices, often connected with tribal ancestor worship and rain-making, who deliberate with him in council and are largely guided by his advice. For the sake of convenience this system of native administration has been termed 'indirect rule', of which the basic principles are (i) to rule through the native chiefs, who are regarded as an integral part of the machinery of government, with well-defined powers and functions recognised by Government and by law; (ii) to maintain and develop all that is best in tribal custom and institutions, and to avoid, as far as possible, everything that has a detribalizing tendency.

A number of separate units were formed in the first place which, as time passed, have voluntarily amalgamated for the creation of common councils and for the pooling of their financial resources.

The functions of these tribal authorities are financial and administrative and judicial. The system of administration is governed by two principal enactments, namely, the Native Authority Ordinance (chapter 47 of the Laws) on the administrative side and the Native Courts Ordinance of 1929 on the judicial. The first, which is in fact a *Native Authority Ordinance*, lays down the manner in which the Governor establishes a native authority, affirms his traditional powers, confers on him additional powers which modern conditions render necessary, and imposes certain definite duties and

obligations, of which the most important is the general duty recited in Section 4 "to perform the obligations by this Ordinance imposed and generally to maintain order and good government among the natives residing or being in the area over which his authority extends".

In addition to this general duty, the Ordinance confers special powers of two kinds:

- (i) The power to issue orders for a variety of subjects, such as the regulation, production and consumption of intoxicating liquor, the prohibition of gambling, the destruction of forests, the carrying of arms and other matters involving the maintenance of peace and good order, the control of disease, whether of human beings, domestic animals or crops, and the cultivation of food in time of famine.
- (ii) With the prior consent of the Governor in each case, the power to make rules providing "for the peace, good order and welfare" of the natives concerned, and to impose fees in certain cases, such as ferry dues or fees for the registration of Mohammedan or pagan marriages or divorce, or for the issue of a licence to brew native beer.

The administrative functions of the Native Administrations are many and varied. They are responsible for law and order, collect hut and poll tax, keep a census of their people and of live stock, report outbreaks of human and animal diseases, and maintain roads, other than trunk roads, etc. The Councils have been specially active in promoting schemes for the general welfare of the people. They have paid frequent visits to the village schools and are willing to build and maintain additional schools from the funds of the native treasuries. They have interested themselves in the improvement of stock and have taken over a number of European bulls supplied by the Government for the purpose of grading up the native cattle, while it is largely owing to their efforts that the attempts to check the advance of the tsetse fly in the Provinces of Tabora and Mwanza have met with such success.

As stated above, a portion of the hut and poll tax is paid over to the Native Administrations, and from this they derive the bulk of their revenue, which is augmented in some cases

by court fees and ferry and market dues. To administer these funds, each Administration has its treasury, varying from that of the council of the Bukoba chiefs which functions much as the Treasury of the Territory as regards accounting methods and control, to the little funds of the more primitive units over which the District Officer exercises a close control. From these treasuries the salaries of the chiefs and of the employees of the Native Administration and other recurrent expenses are met, and surplus funds are made available for capital expenditure on schools, hospitals and dispensaries, wells, agricultural and veterinary instruction centres, cattle dips, roads, afforestation and so on.

The other main function of the Native Administration is to administer justice; and the Native Courts Ordinance of 1929 prescribes in general terms the powers of the Native Courts, though the precise jurisdiction of each is more fully defined in the warrant which is issued to every court. There exist two types. Both types have jurisdiction in suits relating to personal status and to marriage or divorce under Moham-medan or native law, and a limited jurisdiction in matters of inheritance. In suits the value of which can be assessed in money, the higher courts have jurisdiction up to £30 and the lower up to £10. If punishments are ordered, they are limited to six months' imprisonment, to a fine not exceeding Shs.200, or to eight strokes with a cane in the higher courts, and in the lower, to one month's imprisonment, to a fine not exceeding Shs.50, or to six strokes with a cane.

For offences against native law and custom, Native Courts may, in addition, order "any punishment authorized by native law and custom which is not repugnant to natural justice and humanity". This power has not been used up to the present time and may, in any case, only be exercised with the consent of the District Officer, but is intended to provide for such deterrents as the exposure of a detected adulterer to the ridicule of the villagers, a not infrequent practice among some tribes.

All sentences of imprisonment are served in Government prisons and must be confirmed by the administrative officer who makes out the commitment warrant, and no sentence

of whipping may be carried out until it has been confirmed. Administrative officers exercise a close and constant control over the courts and render quarterly inspection reports to their Provincial Commissioners who supervise generally the whole system. Returns of all cases tried (including appeals) and all punishments ordered are rendered to the Chief Secretary and are closely scrutinized.

Appeals lie in the first instance from the lower native courts to the higher courts of the authority to whom they are subordinate, and thence to the District Officer. From the District Officer there is an appeal to the Provincial Commissioner and from the Provincial Commissioner a further appeal to the Governor. The law provides for the transfer of cases to the courts subordinate to the High Court, so that any appeal involving points of European law can be submitted to the High Court, should this be necessary. Subject to the limitations laid down in the warrant of each court, the Native Courts administer :

- (a) Native law and custom, so far as it is not repugnant to justice and morality, or inconsistent with any Order-in-Council or with any other law in force in the territory.
- (b) Orders lawfully made under the Native Authority Ordinance.
- (c) The provisions of any Ordinance in which jurisdiction is expressly conferred upon natives.
- (d) The provisions of any law which, by special order, the courts may be authorized by the Governor to administer.

All serious crimes and any other matters which a District Officer may consider should not be tried in a Native Court are reserved to the ordinary subordinate courts. But even so, dealing, as they do, with the wrongs and disputes of nearly five million people, the Native Courts transact an immense amount of business. With scarcely an exception, the natives of the Territory cultivate unsurveyed and unfenced land held under tribal forms of tenure. They own and pasture, generally on common and always on unfenced grazing grounds, several million cattle, sheep, and goats. They have an intricate customary law dealing with personal status, marriage, divorce and inheritance and often with fishing rights, the collection

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of salt and similar matters. Their methods of life, in short, primitive though they may be in the eyes of a European, are such as to provide multifarious causes for disputes which keep their courts fully occupied.

In the exercise of all their powers, native authorities are under the control of the administrative officers, and if they exceed their powers they are punished and deprived of them. In practice, there is a close and efficient control over the native authorities, and though it is impossible to say that individuals may not evade it, or break the law and escape detection, in general there can be no question but that there is now a far more effective control of the chiefs than ever there was before their personal incomes had been regularized and made dependent on their good conduct, and before they had been assigned definite duties and functions within the Government, defined by law and regulated in accordance with detailed political instructions issued to every administrative officer.

The native policy of the Government and the considerations which led to the adoption of that policy are explained in the following Preface to a White Paper published by the Government in 1927:

It is to be observed that the problem confronting this Government arises from a recognition of the fact that races other than African have become, and will remain, a permanent element in the population of this Territory. The European and the Asiatic have come to stay, and the problem therefore is not "is non-native settlement desirable?" but "how can the interests of all races best be reconciled and their relations adjusted so as to provide for all alike favourable conditions for development along such lines as economic and social forces may make possible for them?"

In facing that problem certain factors must be recognized: in the first place, a state of affairs in which the African tribes will not very greatly outnumber all other races is inconceivable in this Territory. At present there are roughly 3,000 Europeans, 15,000 Asiatics and 4½ million natives: those numbers will vary, but it is extremely unlikely that any appreciable increase in the proportions of the first two classes to the last will occur at any time: the 3,000 Europeans may become 6,000; the 15,000 Asiatics may become 30,000; but the 4½ million Africans will in all probability have

become 5, 5½ or even 6 millions at the same time, and the question therefore is "how can this vastly preponderating mass of Africans be incorporated in a State composed of such diverse elements?"

Care is needed lest false analogies be drawn from countries, such as, for example, South Africa, where conditions are entirely different. If the South African natives (who only outnumber the Europeans by 5 to 1) ceased to exist, there would result a great economic upheaval and a period of serious financial difficulty; but that is all. The existence and the activities of the European race would not be imperilled, and that race would adapt itself to the new conditions created by the elimination of the African labourer as an economic factor. But in Tanganyika there is no form of industry of any importance under European or Asiatic direction which could exist at all without native labour; the native is essential to the continued existence of the other races, and the contact between the races must therefore be close and constant.

Recognizing this and being convinced that it is neither just nor possible to deny permanently to the natives any part in the government of the country, the Government of this Territory has adopted the policy of native administration, which aims at the elimination of race friction by the provision within the limits of their own Native Administrations of legitimate scope for the political interests and aspirations of Africans, both educated and uneducated, so making it possible for them to evolve, in accordance with their traditions and their most deeply rooted instincts, as an organized and disciplined community within the State, within a State which, by reason of the widely divergent degrees of civilization and wealth of its component races, does not admit of political evolution analogous to that of homogeneous nations in Europe and elsewhere in the world.

Not only is this policy not inimical to the interests of other races, it is their strongest safeguard, the surest and safest foundation upon which their existence in the Territory can be built, for it enlists upon the side of law, order and good government all responsible elements in native society, and it aims at preserving that society intact and at protecting it from disintegration into an undisciplined rabble of leaderless and ignorant individuals; moreover, it makes it possible for the other races occupying the Territory to pursue steadily and in security their lawful occupations, and to organize their industry in such a manner as to enable them to enlist, by favourable treatment and the attraction of good and regular wages, that sufficiency of African labour without

which their existence in this Territory would cease to be profitable and would therefore come to an end.

(d) LEGISLATION AND JUDICIAL

The laws of the Territory consist of Imperial Orders-in-Council relating to the Territory, certain English and Indian Acts applied either wholly or in part, local Ordinances and Orders and Rules made thereunder.

During the period of military operations such legislation as was considered necessary was enacted by means of Proclamations and Regulations promulgated by the Commander-in-Chief and, in the early days of civil administration, by the Administrator. These Proclamations were issued, as a rule, to meet particular emergencies arising out of an abnormal situation or in substitution for certain German Ordinances which, otherwise, were regarded as applicable and in force. The retention of the German law in force on the outbreak of war was clearly impracticable and undesirable, and the tendency was to replace it as soon as possible by Ordinances modelled on those of adjoining dependencies or by applied English and Indian Acts. This was done as opportunity offered and, as the Statute Book will show, a mass of new legislation was passed in 1921 and succeeding years. Ordinances were enacted by the Governor alone, subject to non-disallowance by His Majesty, until the constitution of a Legislative Council in December, 1926, since when, as has been previously explained, the legislative power in the Territory has been vested in the Governor and the Legislative Council.

An Ordinance is first published in the *Gazette* in the form of a Bill, with a short statement of the objects and reasons for its enactment. After enactment it is published again in its final form, coming into operation on the day it is thus published unless otherwise provided, and in due course the allowance or disallowance of the Ordinance by His Majesty is notified in the *Gazette*. A number of Orders-in-Council, Regulations and Rules are made by the Governor in Council (that is, in the Executive Council) under and by virtue of the

powers conferred by various Ordinances. These are published in the *Gazette* immediately after enactment. Rules and Regulations made under Ordinances passed before the constitution of the Legislative Council, i.e. before December, 1926, were made by the Governor only, but when occasion arises to amend those Ordinances opportunity is taken to require Rules, etc., to be made by the Governor in Council.

The laws of the Territory, including the Ordinances, Orders, Proclamations, Rules and Regulations made thereunder and the principal Orders-in-Council, Letters Patent and Royal Instructions relating thereto, were recently revised up to 31st December, 1928, and are published in three volumes. Copies of the bound volumes of the revised laws can be obtained from the Government Printer, Dar es Salaam, or from the Crown Agents for the Colonies, 4 Millbank, London, S.W., the price of the set of three volumes being £3. Chapters relating to particular subjects, e.g. game, land, etc., are obtainable in pamphlet form. Subsequent legislation has been and will continue to be published at the end of each year in a bound volume.

Under the German administration of justice District Courts were established in Dar es Salaam, Tanga, Mwanza, Moshi and Tabora and exercised jurisdiction over natives, appeals lying direct to a Supreme Court in Dar es Salaam. The District Judge dealt with certain civil, criminal and bankruptcy cases and with non-contentious matters. He also dealt with land registration and was empowered to perform marriages and to act as registrar of births, deaths and marriages within the area of his jurisdiction. In criminal matters he was assisted by four assessors.

There was a Supreme Court at Dar es Salaam, presided over by a Superior Judge appointed by the Imperial Chancellor, who exercised supervision over the District Judges. The Superior Judge revised all proceedings of the lower tribunals in criminal matters and also had jurisdiction in respect of appeals by coloured persons against the decisions of the local authorities in matters above 1,000 rupees.

The Supreme Court consisted of the Superior Judge and four assessors. It dealt with appeals from decisions of the

tion of justice prior to the war.
The District Courts.

The Supreme Court.

District Judges and District Courts in civil, bankruptcy and criminal matters, and also with decisions of the District Judge in non-contentious matters.

Jurisdiction
over natives.

The great majority of natives were considered to be insufficiently advanced for the law of the white man and, with other coloured persons having the same status (*e.g.* Arabs, Indians and Baluchis), were excluded from its operation. It was the policy, too, to preserve the closest connexion between the executive and the judiciary rather than to separate these two branches of government. Jurisdiction over natives was, therefore, exercised mainly by District Officers and officers in command of military stations, appeals lying direct to the Governor, by whose order they were referred to the Superior Judge. There was no general native law, but under the Imperial Ordinance of 1908 the Imperial Chancellor, and with the latter's sanction the Governor, was empowered to issue Ordinances and Regulations concerning jurisdiction over natives.

Administra-
tion of jus-
tice during
the post-war
occupation
of the
Territory
until 1920.

The administration of justice during the period of military operations and for the first two years of civil administration was carried on by Political Officers by virtue of a military Proclamation dated the 9th October, 1916. Later, it became apparent that a definite standard of criminal law and procedure was necessary, both as a guide to officers exercising jurisdiction and as the foundation of a system which could be permanently adopted. Accordingly, a Proclamation was issued in April, 1919, whereby criminal courts of various grades were constituted, *viz.*: special courts, courts of magistrates, courts of District Political Officers and Assistant Political Officers and native courts, and were given jurisdiction to try offences against martial law, breaches of certain German Ordinances and offences under the Indian Penal Code. For purposes of procedure the Indian Code of Criminal Procedure, the Indian Evidence Act and Indian Oaths Act were adopted. Political Officers were also given civil jurisdiction to adjudicate disputes between natives, but, until the enactment of the Courts Ordinance of 1920, courts having civil jurisdiction over non-natives did not exist. At the same time the German Ordinances, Rules and Circulars which were in force

at the outbreak of war, were declared to be in force in the Territory, in so far as they were not inconsistent with subsequent British Proclamations.

Since 25th September, 1920, the administration of justice has been carried out by Courts of Justice established under the Tanganyika Order-in-Council of 1920. These courts consist of His Majesty's High Court of Tanganyika; a Special Tribunal, consisting of the Chief Justice, to decide civil causes and matters which arose before the commencement of the Order-in-Council; Subordinate Courts constituted under the Courts Ordinance, 1920, and Native Courts exercising jurisdiction in accordance with the direction of the Governor.

The High Court was opened for the transaction of business on 3rd January, 1921, and consists of the Chief Justice assisted by two Puisne Judges. Sittings are held in Dar es Salaam continuously throughout the year, except for periods of approximately a month at Easter and a fortnight at Christmas which are observed as Court vacations, provision being made, however, for the conduct of urgent business during the vacation. Criminal sessions are held at regular intervals at Morogoro, Dodoma, Tabora, Kigoma and Mwanza on the Central Railway, at Tanga, Lushoto, Moshi and Arusha in the north and at Iringa when required. District Registries of the High Court have been established at Tanga, Mwanza and Arusha.

Appeals from the High Court lie to His Majesty's Court of Appeal for Eastern Africa, as provided in the Appeal to the Court of Appeal Ordinance (Chapter 5 of the Laws) and the Eastern African Court of Appeal Order-in-Council, 1921, as amended by the Eastern African Court of Appeal Order-in-Council of 1923. The Court of Appeal holds sessions, as required, in Kenya, Uganda, Zanzibar and Tanganyika. Appeals from the East African Court of Appeal lie to the Privy Council.

The work of the Special Tribunal, which has served a useful purpose in disposing of civil claims caused by war conditions and arising before the Order-in-Council of 1921, is practically complete.

Subordinate Courts of the first, second and third class are held in every district and at every administrative station in

the Territory by administrative officers upon whom judicial powers have been conferred, while at important centres and townships such as Dar es Salaam, Tanga, Mwanza, Moshi and Arusha first class Subordinate Courts are held by magistrates legally qualified and specially appointed to the staff of the Judicial Department. Subordinate Courts exercise both criminal and civil jurisdiction. In criminal jurisdiction, imprisonment may be imposed by courts of the first, second and third classes, for terms not exceeding two years, twelve months and six months respectively; but in certain cases the Governor may invest any magistrate with power to try as a magistrate any class of offence and to impose any sentence which could lawfully be imposed by the High Court. This power has been exercised in the case of districts which are difficult of access by the High Court without undue expenditure of time and money, and is a modification of the practice prevailing before the creation of the High Court. Courts so constituted sit with the aid of two or more assessors. Their cases are examined by the High Court, and when sentence of death is passed the conviction must be confirmed by the High Court, and the sentence of death confirmed by the Governor before being carried out.

Subordinate Courts of the first, second and third class exercise civil jurisdiction up to a limit of £200, £100 and £50 respectively, except that in the first class courts of Mwanza and Bukoba, when presided over by the Resident Magistrate of Mwanza, jurisdiction has been extended up to a limit of £750. Appeals in civil matters lie from a Subordinate Court to the High Court.

Native
Courts.

Under the Courts Ordinance of 1920, Native Courts were established from time to time by the Governor and were given jurisdiction over natives in civil and criminal cases of a minor character. These courts were presided over by native chiefs and headmen, and were supervised by the administrative officers in their capacity as magistrates of the Subordinate Courts, to which appeals could be preferred, the Subordinate Courts in turn being subject to the supervision of the High Court.

The Native Courts remained under the supervision of the

administrative officers in their capacity as magistrates and of the High Court until the enactment, in 1929, of the Native Courts Ordinance, which placed under administrative supervision all Native Courts, with certain exceptions mentioned below; appeals lying from the decisions of administrative officers to the Provincial Commissioners and from them to the Governor. The system and powers of Native Courts have been dealt with at greater length in a previous section of this chapter.

In Dar es Salaam and some of the larger townships Native Subordinate Courts, presided over by Liwalis or Kathis, remain subject to the jurisdiction of the High Court. These courts are mainly concerned in the administration of Mohammedan law in matters such as marriage and inheritance.

The Indian Penal Code and the Indian Criminal Procedure Code were applied to the Territory in 1919 and continued to be the standard in criminal law until 1930, when they were replaced by a Penal Code and a Code of Criminal Procedure drawn up to suit East African conditions and applicable to the adjacent East African dependencies. The Indian Civil Procedure Code still governs the procedure in civil cases. Procedure is regulated by Rules made by the High Court with the approval of the Governor, the power of the High Court to make Rules including, *inter alia*, power to fix fees and scales of remuneration.

Legal practitioners, who are styled 'advocates', are admitted to practice by the Chief Justice before the High Court and courts subordinate thereto in accordance with and subject to the provisions of the Legal Practitioners Rules, 1930.

Subject to the production of proof of qualification and such testimonials as to character as the Chief Justice may deem satisfactory, and to signing the Roll and paying the prescribed fees, the following persons are eligible for admission:

- (a) Members of the Bar of England, Scotland, Northern Ireland or the Irish Free State;
- (b) English, Irish or Scottish solicitors, Writers to the Signet in Scotland, solicitors, attorneys or law agents of a Superior Court in a British possession to which the Colonial Solicitors Act, 1900, is applied and who by virtue thereof

may be admitted as Solicitors of the Supreme Court in England, Scotland or Ireland without examination, etc.; and

- (c) Advocates admitted and entitled to practise as advocates before the Supreme Court of any dominion, commonwealth, self-governing colony or before one of the High Courts in British India.

A list of advocates practising in the Territory is given in Appendix I.

(e) MUNICIPAL ADMINISTRATION

Municipal
administra-
tion under
the German
Government.

A measure of self-administration was granted to the townships of Dar es Salaam and Tanga by the German Government. In 1901 and 1904, by Ordinances of the Imperial Chancellor, Communal Unions (*Kommunale Verbände*) were established in several districts, including Dar es Salaam and Tanga. These Unions comprised large areas corresponding more nearly to the present districts than to towns. In 1909 all the Unions, except those of Dar es Salaam and Tanga, were abolished, and their property reverted to the Government, the areas of the last-mentioned Unions being restricted to the actual townships. In 1910 the restricted Unions of Dar es Salaam and Tanga were by Ordinance constituted municipalities, or 'Stadtgemeinde', with the ordinary functions of municipalities and power to levy taxes and to acquire and hold land, the management of the municipalities being vested in an elected Town Council. The Governor exercised general supervision over the affairs of the municipalities, and his approval was required for all important acts. The municipalities were endowed with a certain amount of land by the German Government, but nevertheless required assistance in the form of a Government subsidy in order to balance their budgets—a sum of £2,000 having been voted by the Government in 1914 to cover deficits in the cost of the administration of Dar es Salaam. By the German Municipalities Ordinance, 1922, the property of these municipal bodies became re-vested in the Government of Tanganyika, which assumed the liabilities of these corporations so far as the assets allowed.

Under the provisions of the Peace and Good Order Regulations of 22nd February, 1919, an enactment of an omnibus nature dealing with offences so wide apart as drunkenness and sedition, Rules were issued in November of that year to apply to the town of Dar es Salaam for the general sanitation and control of the township. At the end of 1920 a Townships Ordinance (Chapter 29 of the Laws) was passed, giving power to proclaim townships, to make rules for the health and good government of townships, to fix and levy rates, and to prescribe fees, etc. Under this Ordinance a number of Rules were issued for the various townships which were modelled largely on the Rules for Dar es Salaam of 1919, but were varied to suit local conditions in each case. With the passing of the Ordinance a Proclamation was issued defining certain places to be townships and reciting their boundaries. The list has been added to from time to time and the following places in the Territory are now townships:

				Townships.
Arusha	Kasulu	Lushoto	Mwanza	
Bagamoyo	Kigoma	Mahenge	Namanyere	
Bahe	Kibondo	Manyoni	Pangani	
Biharamulo	Kilimatinde	Mbulu	Saranda	
Bukoba	Kilindoni	Mikindani	Singida	
Chole	Kilosa	Mohoro	Songea	
Dar es Salaam	Kilwa-Kivinje	Mombo	Tabora	
Dodoma	Kondoa-Irangi	Morogoro	Tanga	
Gulwe	Korogwe	Moshi	Tukuyu	
Iringa	Lipumba	Mpwapwa	Ujiji	
Itigi	Lindi	Muhesa	Utete	
Kahama	Liwale	Musoma		

In 1923 comprehensive Rules were passed under the Ordinance of 1920 prescribing for the health and good government of townships. They were of general application and superseded the provisional and local Rules which had hitherto been applied. They also empowered the Governor to appoint such persons as he might think fit to be a Township Authority. Township Authorities have been appointed, and consist of the District Officer as president, and representatives of the Medical, Public Works and Survey Departments, where these are available, the executive officer being, as a general rule,

the medical representative. Unofficial members have been appointed to serve on the Township Authorities of Arusha, Bukoba, Dar es Salaam, Moshi, Mwanza, Tabora, and Tanga.

Central Town
Planning and
Building
Committee.

All questions of building or town-planning in townships are dealt with primarily by a local committee and are then referred to the Central Town Planning and Building Committee, consisting of the Director of Medical and Sanitary Services as president, the Deputy-Director of Sanitary Services as secretary, the Director of Public Works, the Land Officer, the Director of Surveys and the Government Architect, which committee makes its recommendations to the Chief Secretary for the decision of the Governor.

Licences,
fees, etc., in
townships.

The house tax and municipal tax payable on houses in townships are shown in Chapter VII. In addition, certain fees, licences and charges are levied under the authority of the Township Rules. These are as follows:

		In other Townships.
Bicycle or tricycle registration fee in Dar es Salaam, Tanga, Tabora and Bukoba	Shs. 2 per annum	
Ricksha (private)	5	
„ (for hire)	24	
Dhobies not privately employed:		
In Dar es Salaam	12	Shs.2
Pounds—Donkeys, sheep, goats, dogs, swine, per head per day	50 cents	
Cattle per head per day	Shs.1	
Other animals not specified above, per head per day	1	
Slaughter fees—Arusha, Bukoba, Dar es Salaam, Dodoma, Kigoma, Kondoa- Irangi, Mwanza, Tabora and Tanga:		
1 head of cattle	5 ¹	3
1 goat or sheep or sucking pig	50 cents	30 cents
1 pig	Shs.4	Shs.4
Dog licence—Shs.10 per annum. If native owned	5	
(Bukoba, Dar es Salaam, Lindi, Mwanza, Tanga and Tabora).		

¹ Shillings 3 in Bukoba and Tabora.

Indian processions, bands and entertain- ments	Shs.20	In other Townships. Shs.5
Public native Ngoma, except on Saturday nights when free	„ 10	„ 2

Cess pit—Per load, Shs.4 in Dar es Salaam and Tanga.

In townships where sanitary buckets can be removed by Govern-
ment labour by arrangement, a charge is made to cover the
cost of the service.

Ricksha boy's licence, 50 cents per annum.

A water rate is payable in Dar es Salaam, where there is a pipe line supply, at the rate of Shs.3/33 per 1,000 gallons plus a monthly rent of Shs.2 for the meter. Water rates
in townships.

Most non-Europeans and natives draw their water from stand-pipes at a charge of one cent for four gallons.

Water rates, on scales varying according to local conditions, are charged in the townships of Tabora, Moshi and Mikindani, where pipe-line supplies have been installed.

There are Government electricity supplies in the townships of Dar es Salaam, Tabora, Dodoma and Kigoma, while at Tanga electric power is supplied by a small private under-
taking. The scale of charges is as follows: Electric
light and
power
supplies.

At Dar es Salaam the maximum charge for lighting is Shs.1 per unit, but a sliding scale is in operation whereby larger consumers obtain the benefit of cheaper rates. Up to 50 units per month consumption the maximum rate is charged, but with each increased unit consumed per month from 51 to 2,000 units, the price per unit decreases, until at the latter figure the minimum of 50 cents per unit is reached. The rate of reduction is not uniform throughout the scale, but is graduated to fall rapidly between 50 and 300 units for the benefit of small hotels, trading houses, etc.

There is a special tariff, designed to encourage the use of domestic heating, cooking and refrigerating appliances, which consists of a fixed monthly charge based on the wattage of lighting installed on the premises plus a low fixed rate per unit for current consumed for all purposes. The basic rate is Shs.40 per 1,000 watts of lamps, with a minimum of Shs.10 per month, current for all purposes being charged for in addition at the rate of 25 cents per unit.

At Tabora there is a fixed tariff of Sh.1/20 per unit, with a fixed tariff of 60 cents per unit for power purposes.

At Dodoma, only current for lighting purposes is supplied, at a fixed charge of Shs.1/20 per unit.

At Kigoma there are no meters, the charge being based on the number and sizes of lamps, as follows:

For each 10 watt lamp . . .	Shs.1/50 per month.
" 16 " . . . "	2/40 "
" 20 " . . . "	3 "
" 25 " . . . "	3/75 "
" 30 " . . . "	4/50 "
and so on.	

At Tanga a maximum charge of Shs.1/50 per unit is made, certain rebates being given, according to each individual contract.

(f) THE KING'S AFRICAN RIFLES

History of
the 2nd and
6th Bat-
talions of
the King's
African
Rifles.

The military forces of the East African dependencies are furnished by units of the King's African Rifles, a force composed of native troops and officered by British officers and non-commissioned officers seconded for a period from the Regular Army. The various battalions of the regiment have strong and cherished territorial connections, the 1st and 2nd Battalions being recruited entirely in Nyasaland, the 3rd and 5th in Kenya, the 4th in Uganda, and the 6th in Tanganyika.

To chronicle the records of the force as a whole would be a task outside the scope of this book, and it is only possible to outline briefly the history of the two battalions, namely, the 2nd and 6th, which are stationed in Tanganyika.

The 2nd
Battalion.

In the numerous operations which took place in the early 'nineties in British Central Africa, the levies enrolled in that country (now Nyasaland) had shown that they possessed valuable military qualities, and it was therefore decided to raise a battalion for service abroad with a view to relieving the Imperial garrisons stationed in certain coaling stations or military ports lying within the tropical zone. A battalion, known as the 2nd British Central Africa Rifles, was raised for the purpose at Zomba on 1st January, 1899, and in

June of that year proceeded to Mauritius for garrison duty. The troops, who arrived imperfectly equipped, suffered severely from damp and cold, and the bell tents which formed their only quarters afforded little protection against the constant storms of heavy rain which swept across the island. The frigidity of their reception was not confined to the elements alone, the presence of African troops on the island being bitterly resented by the local inhabitants, who did not disguise their feelings. Assaults upon the soldiers became so serious, indeed, that the men were not allowed to leave barracks except in parties of ten, and patrols from Indian battalions were sent daily to the villages in the neighbourhood of camp to maintain the peace.

The agitation against the importation of an African regiment continued until February, 1900, when the battalion was ordered to Somaliland which at that time was in a state of unrest owing to the activities of the Mad Mullah. Soon after its arrival the title of the regiment was altered from the "British Central Africa Rifles" to "The Central Africa Regiment".

In July, 1900, half the battalion was ordered to the Gold Coast under General Willcocks. All ranks distinguished themselves by their steady discipline and gallantry under fire, the regiment being present at the capture of Odum, the actions of Ojesu and Abuassu, the occupation of Kumasi and many minor skirmishes. Meanwhile, the remainder, which had been left in Somaliland, was moved to the Gambia, where it took part in a punitive expedition. Subsequently the battalion was again united in the Gold Coast and, on the termination of hostilities, returned to Nyasaland in July, 1901. In these two strenuous years of foreign service the battalion firmly established its reputation as a tried and proved fighting force of courage and endurance, and, in soldierly qualities, at least the equal of any native troops in the African Continent. In recognition of its service a detachment of non-commissioned officers and men was ordered to England and was attached to the Coldstream Guards at Windsor, where it was inspected by King Edward VII. and by the Commander-in-Chief, Lord Roberts.

At this time all the troops in East and Central Africa were

amalgamated into one regiment to be known as the King's African Rifles, and the Central Africa Regiment became the 2nd Battalion of this force.

The battalion was not destined to remain long at its home in British Central Africa, as, in July, 1902, orders were received to proceed again to Somaliland, where it was engaged in operations against the Mullah until 1904. It was present at the action of Erigo on 6th October, 1902, and was overwhelmed at Gumburu in April, 1903, after inflicting heavy losses on the Mullah's forces. All the officers, nine in number, were killed and over one hundred and fifty of the African ranks were killed and wounded. The battalion was present at the battle of Jidballi, on 10th January, 1904, where the forces of the Mullah were heavily defeated and his power temporarily broken. On the conclusion of hostilities in Somaliland the battalion proceeded to Nairobi and, after a short stay there, returned once more to Nyasaland, remaining there until June, 1908, when it was sent to British East Africa and to Zanzibar for garrison duty.

In March, 1911, reductions were made in the forces of the East African dependencies and, in consequence, the battalion, whose services only three years later would have been of such inestimable value, was disbanded. The outbreak of war, of course, saw the whole strength of the King's African Rifles engaged, and the strength of the regiment, which prior to the war had been reduced to three battalions, was gradually increased to twenty-two. The 2nd Battalion was reconstituted in 1916 with a nucleus of four companies of the 1st King's African Rifles and 1,400 recruits and reservists from Nyasaland, and, from April, 1916, to the end of the war, was continuously in the field, often suffering hardship and privation with cheerful endurance and constantly in fierce action. Among its more memorable engagements were those of Kibata, Narungombe, Mahiwa, Lioma and Pere.

In the course of the campaign, during which 5,609 African ranks served in it, the regiment lost forty-three officers and British non-commissioned officers and four hundred and thirty-one native ranks killed in action, while twenty-two officers and British non-commissioned officers and four hundred and

twenty-four native ranks died of disease. In addition, 114 officers and British non-commissioned officers and 1,340 native ranks were wounded, making a total of 2,374 casualties.

On the conclusion of the war the 2nd Battalion of the King's African Rifles was formed from the Battalions of the 2nd Regiment and proceeded to Nairobi, but in March, 1919, was moved to Tabora, where its headquarters still are.

The 6th Regiment was one of the new regiments of the King's African Rifles raised in the war and first consisted of two battalions, the 1/6th and 2/6th, the native personnel being drawn from many different tribes in Kenya and Uganda as well as in Tanganyika. When at the close of the war most of the King's African Rifles units were disbanded, the 6th Regiment remained and was reconstituted into the 6th (Tanganyika Battalion) King's African Rifles with headquarters at Dar es Salaam. It was the intention that the rank and file should be entirely drawn from the tribes of the Territory, but during the period of reorganization it was found impossible to obtain sufficient natives with military training in Tanganyika, and, as a temporary measure, two companies were formed from the Kavirondo, Buganda and Nilotic tribes of which the 3rd (Kenya) and 4th (Uganda) Battalions were composed. The other two companies were drawn from the Wanyamwezi and Wasukuma of the Tabora and Mwanza districts and from the tribes of the coastal belt.

A detachment from the garrison of Tanganyika, which included two companies of Kavirondo and Uganda natives of the 6th Battalion and one company of the 2nd Battalion, was called upon to assist in the operations against the Mullah which took place in Somaliland in 1919. The three companies formed a composite battalion. The expedition, in which aeroplanes were first used in Somaliland, lasted for barely three weeks and terminated in the complete defeat and rout of the Mullah's forces.

The services of the King's African Rifles during the Great War were recognized by the grant of Colours, and on 10th September, 1925, the Regiment was further honoured in the acceptance by the King of the position of Colonel-in-Chief of the Regiment.

L

Post-war
garrison.

The post-war establishment consisted in all of 2,000 combatant native ranks and 72 European officers and non-commissioned officers, and included a portion of the 2/1st (Nyasaland) Battalion which was stationed for a time in the south of the Territory. On the disbandment of the 2/1st Battalion in 1923, the total strength was reduced to about 1,700 native ranks and 65 European officers and non-commissioned officers. It remained at that figure until the completion of the Tabora-Mwanza railway in 1928, when the detachment of the 2nd Battalion, which had been stationed at Mwanza, was disbanded and the establishment was then further reduced by three European officers and by nearly 300 men. Towards the end of 1929 proposals were submitted for the reorganization of the King's African Rifles in East Africa, and these have, in the main, been accepted in principle by the Governments concerned. The scheme of reorganization envisages a force common to the East African dependencies rather than, as in the past, a collection of units of varying strength, each practically confined to the Dependency which bore the cost of it. Under this arrangement the troops in Kenya and Uganda will form a Northern Brigade, while those of Tanganyika and Nyasaland, with headquarters at Dar es Salaam, will form a Southern Brigade. The first distribution of troops in the latter Brigade will be as follows:

1st King's African Rifles; headquarters at Zomba, Nyasaland, with detachments at Masoko and Songea in Tanganyika.

6th King's African Rifles; headquarters at Dar es Salaam, with detachments at Mahenge and Arusha.

2nd King's African Rifles; headquarters at Tabora, to be held as a reserve.

It is proposed that each Brigade should be under the command of a Colonel at headquarters and should consist of three battalions, each commanded by a Major, and composed of two rifle companies and two Vickers Gun platoons. The question of a supply and mechanical transport corps and of the establishment strength is under consideration at the moment of writing, but whatever decision may be reached in regard to the former, substantial reductions in the personnel of the military force in the Territory will be achieved.



6TH BATTALION, KING'S AFRICAN RIFLES: THE DRUMS

There is a reserve of native ranks in Tanganyika numbering Reserve. between 350 and 400, and a King's African Rifles reserve of officers in East Africa consisting of British subjects who are retired officers or ex-officers of the military forces of the Crown and are resident in East Africa.

The King's African Rifles Ordinance (Chapter 44 of the The King's Laws) provides for the discipline, organization, conditions of African service, etc., of the King's African Rifles in Tanganyika. It Rifles Ordinance. specially enjoins that no native soldier enlisted or enrolled in the Territory may be employed in any manner contrary to the terms of the Mandate, whereby natives of Tanganyika are not available for service outside the Territory.

(g) POLICE AND PRISONS

The Police Force, in which is incorporated the Prisons Formation service, was established in 1916, when twenty-eight officers, of the Force. non-commissioned officers and troopers of the South African Mounted Rifles were brought to German East Africa for civil police duties, principally in those districts where Europeans, chiefly interned Germans, were settled. The recruitment and training of native rank and file speedily followed, the native police being placed under the direct supervision and control of the European staff. In its early days the Force was called upon to take an active part in local military operations.

The main duties of the Force are those of a civil police, Duties. and they proceed on recognized lines for the preservation of order and the prevention and detection of crime, though in native areas the police are only employed as a rule when the organization of the Native Administration fails. The rank and file are armed with rifles and are equipped and trained for service in support of the military, should such an emergency arise.

The combined services are under the command of the Organiza- Commissioner of Police and Prisons, with headquarters in tion. Dar es Salaam. The administrative division of the Territory into Provinces is adhered to for police purposes, police activities in each province being in charge of a Superintendent

with European assistants. There are eighteen district head-quarter stations and forty sub-stations.

The Railway and Harbour police, and the Customs police are units of the regular Force, but the cost of their upkeep is paid by the Departments which they serve.

The establishment of the Police Force is as follows:

- 1 Commissioner of Police and Prisons.
- 1 Deputy Commissioner of Police and Prisons.
- 8 Superintendents.
- 25 Assistant Superintendents.
- 1 Pay and Quartermaster.
- 36 Chief Inspectors and Inspectors.
- 6 Other European ranks.

There is an Asiatic staff of 67 consisting of Sub-Inspectors, clerical staff, etc., and a native rank and file of 1,719.

Prisons. The Prisons Branch consists of one Assistant Commissioner of Prisons with 11 Superintendents and European warders, a staff of 10 Asiatic and 506 African warders, wardresses and industrial instructors.

There are forty-three convict prisons in the Territory, which are classified as First Class, Second Class and Third Class Prisons.

The following is a list of the prisons:

First Class Prisons:	Dar es Salaam	Tabora	
	Mwanza	Tanga	
Second Class Prisons:	Arusha	Lindi	Tukuyu
	Bukoba	Morogoro	Ujiji
	Dodoma		
Third Class Prisons:	Bagamoyo	Mafia	Newala
	Biharamulo	Mahenge	Njombe
	Handeni	Manyoni	Nzega
	Iringa	Masasi	Pangani
	Kahama	Maswa	Shinyanga
	Kasulu	Mbeya	Singida
	Kibondo	Mbulu	Songea
	Kilwa	Mikindani	Sumbawanga
	Kondoa-Irangi	Mkalama	Tunduru
	Liwale	Moshi	Utete
	Lushoto	Musoma	

The following are Visiting Justices to the prisons:

Members of the Executive Council; Judges of the High Court, the Labour Commissioner and Deputy Labour Commissioner, for all prisons; Provincial Commissioners, for the prisons in their provinces; Administrative Officers in charge of districts or sub-districts, for the prisons in their districts or sub-districts; Magistrates, for the prisons in the towns in which they exercise their functions.

Visiting
Justices.

The main prison industries are tailoring, carpentry, masonry, tinsmithery and the manufacture of soap and coconut matting. Uniforms for the African police and warders are made in the prisons workshops. Long-term convicts receive training in these trades and in riveting and fitting, and in many instances employment is found for them on discharge.

Prison
industries.

CHAPTER VI

THE CIVIL SERVICE

Selection. EUROPEAN officers are selected by the Secretary of State for the Colonies and are appointed by the Governor. They are required to serve on probation for two years, or for five years in the case of technical officers, from the date of their arrival in the Territory. For certain technical, clerical and subordinate posts officers are engaged by the Crown Agents for the Colonies (4 Millbank, Westminster, S.W.) on agreement. Such agreements are signed by the Crown Agents on behalf of the Tanganyika Government.

Newly appointed officers are required to sign an agreement undertaking to refund the cost of their passages and, in the case of some officers, of certain other payments made to them, if they relinquish their appointments, on other than medical grounds, before completing a tour of service.

Courses of instruction. Before taking up their appointments officers selected for administrative posts are required to take the Tropical African Services Course which is held both at the Universities of Oxford and Cambridge. The course covers a full academic year of three terms at Oxford or Cambridge, with the necessary corollary that officers are, as a rule, only selected once a year, i.e. in the late summer. The subjects in which instruction is given include:

1. Criminal Law and Procedure.
2. Mohammedan Law.
3. Civil Law.
4. Anthropology.
5. Elementary Surveying.
6. Field Engineering.

7. First Aid.
8. Colonial History and, in particular, British rule in Tropical Africa.
9. Agriculture and Forestry.
10. Tropical Hygiene and Sanitation.
11. African Languages.

Selected candidates receive an allowance of £75 for the first term, £50 for the two subsequent terms and £50 on the conclusion of the course.

Officers for the staffs of Departments of Agriculture in the tropics are generally selected by the Secretary of State from graduates of British Universities, selected candidates being sent to the Imperial College of Tropical Agriculture, Trinidad, for one year's post-graduate training. In addition there are several scholarships available at the Imperial College, which are paid for by private corporations and companies needing specialists for investigational work.

Candidates selected for training in Trinidad receive an allowance of £20 per month during the period of their training. Free first-class return passages to Trinidad are provided, and, in addition, fees are paid and approved text-books are provided.

Forest Officers are recruited from candidates having a University degree or diploma in forestry, and are required, before proceeding to the Territory, to take a year's course in tropical forestry at the Imperial Forestry Institute. An allowance of £275 is paid to officers attending this course, which includes the cost of tours in Continental forests.

Medical Officers are required to take a course of instruction in tropical medicine at either the London School of Tropical Medicine, the Liverpool School of Tropical Medicine or the University of Edinburgh.

Officers selected for Colonial Survey appointments are required to take a course of instruction of at least six months at the Ordnance Survey Office, Southampton.

Courses of instruction in subjects connected with their work are also arranged for officers of the professional and technical branches of the service during their leave. A lodging allowance is usually paid to the officers attending these

courses, provided a certificate of attendance and proficiency is obtained.

Salaries.

The rates of salaries and increments of the various appointments in the Civil Service will be found in the Civil List Table (Appendix II.).

Increments are subject to the condition that the officer concerned has performed his duties with "diligence and fidelity". There are also "efficiency bars" for officers of certain departments at certain points in the salary scale, the qualifications necessary to pass these varying with each branch of the service.

Half salary is paid to an officer on first appointment from the date of embarkation and full salary from the date of landing in the Territory.

An officer is permitted to arrange with the Crown Agents for a proportion (not exceeding half) of his salary to be paid at home as a family remittance, either to a named person or to his bank. This allotment ceases on the return of an officer to the United Kingdom on leave, when the whole amount is payable monthly by the Crown Agents to the officer.

Passages and allowances.

Officers the maximum of whose salary exceeds £600 per annum, and certain other officers, are provided with first-class passages when travelling to and from the Territory. All other officers are provided with second-class passages.

Married officers may be granted an allowance towards the cost of the passage of their wives and/or families once in respect of their passages in each direction during a tour of service. The allowance payable to officers entitled to first-class passages is £42, and £32 to officers entitled to second-class passages. These sums are reduced by £2 if the officer is embarking or disembarking at Tanga.

An outfit allowance of £30 is payable to an officer on first appointment to a post of which the initial salary does not exceed £600 per annum. This allowance is liable to be refunded if the officer leaves his appointment before completing a tour of service, except on grounds of ill-health.

European officers are entitled to free furnished quarters, or to an allowance in lieu thereof of fifteen per cent of the initial salary of the appointment.

Scarcity of quarters in the larger towns, such as Dar es Salaam, Tanga and Tabora, is usually very acute, and no guarantee can be given to junior married officers or to married officers on first appointment that suitable quarters will be found for them. For this reason a junior officer on first appointment may not bring his wife to the Territory without the Governor's permission, which is not, as a rule, granted until the officer has served at least six months.

Travelling allowances are also payable under certain circumstances and transport allowances based on a mileage rate, varying according to the make of the car, are given to officers who use their own motor cars on Government service.

All officers must pass a language examination in Swahili before being confirmed in their appointments. Administrative Officers, Superintendents of Education, Magistrates, Medical Officers, Veterinary Officers, Agricultural Officers, Assistant Conservators of Forests, Foresters and Assistant Superintendents of Police are expected to show special proficiency in the test. There is a higher standard examination in Swahili which all Administrative Officers and Superintendents of Education must pass before they can cross the £600 efficiency bar, but the test is optional for other officers. Administrative Officers, in addition, must take an examination in law before being confirmed in their appointments, and Police Officers an examination in law and certain police subjects. Examinations.

The European establishment of each branch of the Tanganyika Civil Service, as provided for in the Estimates for 1930-31, is shown in the following table: Establishment.

Governor's Office	3
Secretariat and Legislature	17
Printing and Stationery	10
Administration	178
Treasury	14
Customs	15
Labour	13
Audit	9
Judicial	12
Law Officers	5
Administrator-General	4
Carried forward	280

	Brought forward	280
Police and Prisons	84	
Medical and Sanitation	156	
Veterinary	53	
Education	66	
Transport	8	
Posts and Telegraphs	70	
Agriculture	59	
Forestry	21	
Game	11	
Land	10	
Survey	47	
Mines	10	
Geological Survey	11	
Township Authority, Dar es Salaam	3	
Public Works Department	106	
Railways	208	
Total	1,211	

Leave. The leave regulations for European officers may be briefly summed up as follows:

Vacation leave is granted on full salary at the rate of three days' leave for every completed calendar month's residential service in Tanganyika plus the time taken on the voyage to the United Kingdom. Return leave is granted on the same basis plus the time taken on the journey to the Territory in the case of an officer returning to the Territory for further service.

A tour of residential service is from twenty to thirty months, but officers are usually required to serve at least two years before taking leave.

Sick leave on full salary may be granted on the ground of ill-health for any period up to six calendar months.

Leave on the ground of urgent private affairs may be granted to an officer before the completion of a tour of service. In that event he will be granted vacation and return leave based on the number of residential months completed, including the time occupied on the voyages. Any extension must be without pay. Half the cost of a return passage or one-twentieth of the cost of a return passage for each month of residential service, whichever is the greater, may be granted.

Local leave, to be spent in East Africa or on a sea voyage, is granted at the rate of a fortnight a year and may be accumu-

lated up to twenty-eight days. An officer who undertakes to complete a tour of not less than thirty months may accumulate local leave up to six weeks. A portion of the officer's travelling expenses is paid on local leave.

All European officers must contribute to the East African Widows' and Orphans' Pension Scheme. An officer whose salary exceeds the amount given in Column 1 below, but does not exceed that given in the corresponding line of Column 2, contributes at the annual rate given in the corresponding line of Column 3:

Column 1.	Column 2.	Column 3.
£	£	£
..	275	12
275	300	15
300	400	18
400	500	24
500	600	30
600	720	36
720	840	42
840	920	48
920	1,100	54
1,100	1,200	60

and so on, increasing by £5 for each step of £100 in the salary scale. No officer, however, will be required to contribute at a higher rate than £60 a year. A contributor may elect to make an additional annual contribution of one-half of the amount shown in Column 3 above. This option must be exercised, however, before the date of the first payment of contribution or within three months after marriage, except with the approval of the Governor and after examination by a Government Medical Board, when it may be exercised at any time during the contribution term. The compulsory annual payments are payable until the contributor dies or until he has contributed for an exact period of years determined by subtracting his age next birthday at entry from the age of fifty. The additional payment may be discontinued at any time on giving notice to the Crown Agents. The scheme is managed by the Crown Agents for the Colonies on behalf of the Colonial Governments concerned, and all expenses of administration are borne by the latter. Full particulars of the scheme are sent to officers on appointment.

A pension is payable to a widow for life unless she remarries or becomes bankrupt, and on her death or remarriage the pension is payable to any children in equal proportions, to a boy until he reaches the age of eighteen, and to a girl until she reaches the age of twenty-one or marries. The pension previously paid to a child who has ceased to be of pensionable age is paid to any surviving children of pensionable age in equal shares. A pension is liable to forfeiture in whole, or in part, at the discretion of the Secretary of State if a contributor or widow wilfully makes any false statement respecting any particulars required to be furnished.

Tables for calculating pensions payable are given in the Widows' and Orphans' Pension Ordinance (Chapter 37 of the Laws).

In the event of a contributor dying whilst a bachelor or a widower without children qualified for pension, there is returnable to his legal representative, in the first case, half of his total contributions (without interest), or, in the second case, half the contributions (without interest) paid since the death of his last wife, or the ceasing of his last child to be qualified for pension, whichever event shall last happen.

Similar refunds are made to a contributor who leaves the service (unless retired for misconduct) while a bachelor, or widower without children qualified for pension.

If a contributor who is married or who is a widower with children of a pensionable age and whose period of payment of contributions has not expired:

- (a) is transferred to another service under the Crown not being East African Service, or
- (b) retires on pension, or
- (c) otherwise leaves the East African Service, and his service is of such a nature and of such length as would have rendered him eligible for a pension if he had been retired from the East African Service on medical certificate,

he may continue to contribute at the rate at which he was contributing immediately before he left the East African Service, or he may, on or at any time after so leaving the East African Service cease to contribute.

Pensions are governed by the European Officers' Pension Ordinance (Chapter 36 of the Laws), and the following is an epitome of its provisions as they now stand, so far as officers with service spent solely in East Africa are concerned. Reference to the Ordinance should be made for information regarding the pensions of officers with other public service.

1. Except in the case of European officers appointed to the Service before 1st April, 1927, who can retire after twenty years' continuous service in East Africa, a European officer must serve until he is fifty years of age before he is eligible for pension, gratuity or other allowance, unless:

- (a) his office is abolished;
- (b) he is compulsorily retired to facilitate reorganization in the interests of efficiency or economy;
- (c) he is incapable on medical grounds of discharging the duties of his office and his incapacity is likely to be permanent;
- (d) he is transferred to other public service where the retiring age is greater;
- (e) he is retired on the grounds of general inefficiency.

2. The Governor in Council, with the approval of the Secretary of State, may require a European officer to retire at any time after he reaches the age of fifty, or in the case of an officer who was appointed to the service of one of the East African Dependencies before the 1st April, 1927, after he completes twenty years' East African service.

3. The maximum pension grantable, except in cases of injury in the discharge of duty, is two-thirds of the highest pensionable emoluments drawn by the officer during his service.

4. Pensionable emoluments include:

- (i) salary;
- (ii) any personal allowance granted personally to the holder, for the time being, of any office;
- (iii) house allowance.

5. The estimated value of free quarters for pension purposes is taken to be 15 per cent of the initial salary of the officer's appointment, or of the actual salary if such

salary is not incremental, subject to the proviso that the minimum shall not be less than £50 per annum, or the maximum, in the case of officers appointed after 1st April, 1927, not more than £150 per annum. Points in the scale of salary where efficiency bars occur are regarded as the initial salary of the appointment in the case of an officer who has passed such bar.

6. Subject to the provisions of the Ordinance and regulations thereunder, every European officer who has been in the service for ten years and upwards may be granted, on retirement, subject to the prescribed limit, a pension at the rate of $\frac{1}{480}$ th part of his pensionable emoluments for each complete month of pensionable service.

7. Officers otherwise qualified, who have not completed their minimum ten years, may be granted a gratuity not exceeding five times the amount of the pension which might have been granted had there been no qualifying period.

8. It is lawful for the Governor in Council to grant to the legal representative of an officer dying in the service a gratuity not exceeding one year's pensionable emoluments, provided that the officer is not on probation or agreement and that during the five years preceding his death he has continuously held pensionable office in Tanganyika Territory.

9. Only service in a pensionable office shall be taken into account as pensionable service, but where an unbroken period of service in a civil capacity in an appointment other than a pensionable office is immediately followed by service in a pensionable office in one of the East African Dependencies, such period or any part of such period may, with the approval of the Secretary of State, be so taken into account.

10. No pension, gratuity or other allowance shall be granted in respect of any service while the officer is on probation or agreement, unless without a break of service he is confirmed in a pensionable office, or while he is under the age of twenty.

11. Subject to the provisions of the Ordinance, service qualifying for pension or gratuity, as the case may be, is the inclusive period between the date on which an officer begins to draw salary or half salary from Tanganyika funds and

the date of his leaving the service of Tanganyika, without deduction of any period during which he has been absent on leave.

12. Service in respect of which pension or gratuity may be granted must be unbroken, except in cases where the service has been interrupted by abolition of office or by other temporary suspension of employment not arising from misconduct or voluntary resignation.

13. Pensionable service includes:

- (a) periods on duty; periods during which half salary is paid while proceeding to the Territory on first appointment;
- (b) periods of absence from duty on leave with full or half salary;
- (c) periods of absence from duty on leave without salary, granted on grounds of public policy, which does not qualify for pension or gratuity elsewhere.

Any other periods of absence on leave are deducted from an officer's total service in order to arrive at his period of pensionable service.

14. Pensions and gratuities are calculated on the full pensionable emoluments payable at date of retirement provided that the officer has held the same office, or one carrying similar emoluments, for three years immediately preceding the date of his retirement.

Otherwise the pension is based on the average of the officer's emoluments over a period of three years immediately preceding retirement.

15. When an officer has been permanently injured:

- (a) in the actual discharge of his duty;
- (b) without his own default;
- (c) by some injury specifically attributed to the nature of his duty;

and his retirement is thereby necessitated or materially accelerated, his pension, if he is entitled to one, may be increased by the following proportions of his pensionable emoluments at the date of his injury.

When his capacity to contribute to his own support is

Slightly impaired	Five-sixtieths.
Impaired	Ten-sixtieths.
Materially impaired	Fifteen-sixtieths.
Totally impaired	Twenty-sixtieths.

In certain circumstances these proportions may be reduced and the annual value of his total pension may not exceed five-sixths of his highest pensionable emoluments any time in the course of his public service.

16. An officer may, as provided for in the Ordinance, elect to receive on final retirement reduced pension at the rate of three-fourths of the pension earned, together with a gratuity equal to ten times the amount of the reduction made in the pension.

17. An officer may be required, up to the age of fifty years, to accept in lieu of his pension further employment either in Tanganyika Territory or in other public service, provided the emoluments are not less in value, due regard being had to circumstances of climate, than those of the office he held when his pension was granted.

18. Fuller and further details will be found in the European Officer's Pensions Ordinance.

19. Medical Officers are allowed, if they wish, to retire after nine years' service and receive a gratuity of £1,000 or after twelve years' service a gratuity of £1,250. In the event of a Medical Officer dying after completing either of these periods, the amount is paid to his estate. Where an officer or his estate receives a gratuity, no further right accrues to a pension or gratuity under the Pensions Ordinance.

Uniforms. The Civil Uniform of the Third, Fourth and Fifth Class has
Civil Uniform. been assigned as follows:

Third Class:

Official Members of the Executive Council.

Fourth Class:

Director of Public Works.
General Manager, Railways.
Provincial Commissioners.
Comptroller of Customs.
Land Officer.

Fifth Class:

Director of Agriculture.
Postmaster General.
Auditor.
Director of Veterinary Services.
Assistant Chief Secretary.
Deputy Treasurer.
Deputy Director of Medical Services.
Deputy Director of Public Works.
Deputy Director of Sanitary Services.
Private Secretary to the Governor.
Administrative Officers having twelve years' administrative service.

The uniform is worn by those entitled to it on all occasions when the wearing of uniform is desirable, such, for instance, as:

- (a) reviews of military or police forces;
- (b) levees held by the Governor;
- (c) official ceremonies held in the daytime, such as the official landing or departure of the Governor;
- (d) native functions of a ceremonial character at the discretion of the Provincial Commissioner or on the direction of the Governor.

There is a Field Service Dress, as described below, which is ^{Field Ser-}vice Dress. required to be worn by the following officers when touring on duty:

All Administrative Officers, including those seconded to the Labour Department.
Veterinary Officers.
Surveyors.
Assistant Conservators of Forests.
Agricultural Officers.
Sanitary Superintendents.
Stock Inspectors.
Foresters.

The wearing of the dress by other officers of the service is voluntary. The dress has three grades, the grade to which an officer is entitled depending on his appointment. The Field

M

Service Dress, of which a pattern may be seen at the office of the Crown Agents for the Colonies, consists of:

- (i) Khaki tunic, military pattern, without shoulder straps, of drill or serge, with turn-down collar and four large brass buttons having the badge of the Territory thereon and small brass buttons of the above-mentioned design on the two breast pockets and the two side pockets, and also on cuffs according to grade. No belt, but fitting at waist: slit at back from waist.

Grade 1. Three rows of khaki braid, half an inch wide with half an inch between each row, the uppermost with circle, and three buttons.

Grade 2. Two rows of khaki braid, half an inch wide with half an inch between each row, the uppermost with circle, and two buttons.

Grade 3. One row of khaki braid, half an inch wide, with circle, and one button.

- (ii) Khaki shirt with two pockets and small buttons as described above may be worn when on tour, in place of a tunic.
- (iii) Khaki drill or serge breeches or trousers. Shorts may be worn on tour only.
- (iv) Khaki puttees, or leggings of brown leather.
- (v) Brown boots.
- (vi) White shirt and black tie, or khaki shirt and khaki tie.
- (vii) Khaki helmet with khaki puggaree and badge of the Territory.

White with white braid may be substituted for khaki for use at coast stations, if so desired.

Medical Officers wear a piping of very narrow red braid on both edges of the uppermost row of braid and circle.

With the sanction of the Governor, junior officers may wear the field service dress, but without braid or buttons on the cuff.

Mess kit. A mess dress consisting of a white mess (shell) jacket, white waistcoat, black tie and black trousers, may be worn in lieu of full evening dress on all occasions when the latter would, otherwise, be worn. It is not a uniform but only an alternative for full evening dress, and service buttons or other marks to denote differences of rank should not be used.

Arrangements have been made by which civil officials on leave will, on the recommendation of the Colonial Office Medical Advisers, be received at the various hospitals under the Seamen's Hospital Society, at inclusive charges to cover board, nursing, medical charges and drugs. Tropical disease cases are sent to Endsleigh Gardens, other cases to Greenwich, or to the Albert Dock Hospital, according to the necessities of the case. Tubercular cases are sent to the sanatorium at Bramshott. For officers living in the north of England similar facilities are available in the wards of the Liverpool School of Tropical Medicine at the Royal Infirmary, Liverpool. The Seamen's Hospital Society has arranged special facilities for the treatment of officers of the Colonial and similar services in private wards at the Dreadnought Hospital, Greenwich, at the following reduced rates:

Each patient will pay a standard ward charge of 10s. 6d. per day to cover all maintenance costs, including nursing, medicines, and surgical dressings, and the attendance of the resident medical officer attached to the ward.

In addition, for the services of the honorary visiting staff, fees will be based on the income of the patient, according to the following table :

Grade A	.	.	.	£700—£1,000
Grade B	.	.	.	£500— £700
Grade C	.	.	.	£300— £500

In medical and surgical cases and dental and X-ray examinations the fees charged will be:

Grade A .	.	3 guineas for the first and 2 guineas each subsequent visit;
Grade B .	.	2 guineas for the first and 1½ guineas each subsequent visit;
Grade C .	.	2 guineas for the first and 1 guinea each subsequent visit;

with the proviso in each case that not more than two visits will be charged for in any one week and that the total fees will not exceed the maximum as shown in a subsequent table.

Bacteriological examinations will be charged for at the standard rates obtaining in public laboratories.

Should an operation be necessary, an inclusive operation fee will be charged, its amount being based upon a percentage of income, according to the appended table, but such fee will wipe out any fees incurred in the Hospital, prior to the operation, of whatever nature, and there will be no further charges when the operation has taken place:

Income.		Maximum Fee Chargeable.	
Above £1,000	.	5 %	£50 Os.
" £700 and not exceeding £1,000		4½ "	£31 5s. to £45 Os.
" £500	"	4 "	£20 Os. " £28 Os.
" £400	"	£500 3½ "	£14 Os. " £17 10s.
" £300	"	£400 3 "	£9 Os. " £12 Os.

The fees shown above will be strictly inclusive of anaesthetic and other charges and there will be no extras, so that any patient can, by reference to the last column of figures on the table, at once ascertain what would be the maximum sum he could be called upon to pay for his whole illness, for it is contemplated that the maximum shall apply not only in surgical, but in prolonged medical cases.

Osborne
Convalescent
Home.

Officers of the permanent staff, whether serving or retired, may, in certain circumstances and on the recommendations of the Colonial Office Medical Advisers, be admitted for recuperative purposes to the Convalescent Home at Osborne, Isle of Wight.

Foundation-
ships at
Christ's
Hospital.

The Government has the right, in consideration of a donation to Christ's Hospital by the Government, of nominating through a Donation Governor selected children of officers who have been in the service of the Tanganyika Territory to "foundationships" tenable at Christ's Hospital School, West Horsham, for boys and Hertford for girls. One child between the ages of nine and eleven can be nominated at intervals of, approximately, three and a half years. Applications for nominations, when received, are dealt with in the following order:

- (1) Children of officers killed in the service in the exercise of their duties.
- (2) Children of officers who have died in the service.
- (3) Children of officers who have died after leaving the service.

- (4) Children of officers who have been invalided from the service with gratuities or on small pensions.
- (5) Children of officers who have retired from the service on small pensions.
- (6) Children of officers who are still in the service.

No child can be admitted unless, in the opinion of the Almoners, the parent or parents are in actual need of assistance for the education of their children. Applications should be addressed to the Chief Secretary.

Owing to the lack of Africans with sufficient education and training it is still necessary to recruit subordinate staff from India. The Asiatic subordinate clerical establishment is graded as follows:

Asiatic and
African
Public
Servants.
Asiatics.

Special Grade .	Salary £312 rising by £12	to £360 per annum.
First Grade .	£228 „ £12	„ £300 „
Second Grade .	£168 „ £9	„ £216 „
Third Grade .	£126 „ £6	„ £162 „
Fourth Grade .	£90 „ £4½	„ £120 „

The remainder of the Asiatic staff consists of Sub-Assistant Surgeons and Compounders, artisans and other skilled workers.

It is the object of the Government to train up Africans for the subordinate posts in the Civil Service, but this can only be done gradually, as educational facilities improve. As a start, the African Civil Service was formed in 1925 and consists of a clerical branch and a non-clerical branch. The former comprises all subordinates whose duties are of a clerical nature, e.g. correspondence, accounting and storekeeping: the latter comprises all skilled and semi-skilled labour such as office messengers, customs watchmen, artisans, telegraph operators and linesmen, forest and veterinary guards, hospital orderlies, printers, agricultural instructors, etc.

The clerical branch is organized in two divisions, the Lower and the Higher, with grades and scales of pay as follows:

LOWER DIVISION

Grade II. .	Shs.30 rising by Shs.5	to Shs.60 per mensem.
Grade I. .	Shs.76 „ Shs.6	„ Shs.130 „

HIGHER DIVISION

Grade III.	.	Shs.80 rising by Shs.7½ to Shs.200 per mensem	
		(with efficiency bars at Shs.132½ and 170).	
Grade II.	.	Shs.210 rising by Shs.10 to Shs.270 per mensem.	
Grade I.	.	Shs.285	Shs.15 „ Shs.360 „

Appointments to the Lower Division are made by selection. Clerks are appointed to Grades I. and II. of the Lower Division on a temporary basis in the first place and are required to pass a qualifying examination as a precedent to permanent employment, unless they are in possession of the Central School Leaving Certificate.

Clerks are, as a rule, only admitted to Grade III. of the Higher Division on passing an examination of a high standard consisting of papers in English and Swahili, and in any two of the following subjects : precis and indexing, typewriting, accounts and book-keeping.

Promotion from Grade III. to Grade II. is governed partly by seniority but principally by merit, and from Grade II. to Grade I. by merit only.

The control of examinations is vested in the African Civil Service Examination Board consisting of the Assistant Chief Secretary as president, the Deputy Director of Education and the District Officer, Dar es Salaam.

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(Photograph by Major A. E. Perkins, F.R.G.S. (Copyright))

MOUNT KIBO (KILIMANJARO), FROM THE SADDLE

CHAPTER VII

FINANCE AND TAXATION

To the average reader the financial and statistical chapters of a Colonial handbook are merely a necessary encumbrance; they are generally hurriedly consumed and, as often as not, ill-digested. In well-established Colonial possessions spectacular rises or falls in revenue are unusual, and, as a rule, figures of revenue and expenditure maintain a dull, if prosperous, equilibrium; the curve of trade rises upwards gradually but not markedly, and, in short, statistics have every semblance of a staid respectability and, perforce, make dull reading. To those who know Tanganyika and to those who study its finances, each year's budget tells a story of progress, and to the imaginative reader these financial bones come to life.

Civil administration of a portion of the evacuated German territory in East Africa commenced on a limited scale in 1916, and was self-supporting until financial responsibility for the whole territory was accepted in 1919-20. A headquarters Treasury, under the Civil Government, was first established at Lushoto at the close of the year 1916, and on 1st January, 1917, the accounting operations of all Political Officers in the Northern Area were transferred from military to civil control. In the South-Western Area a Financial Officer had previously been attached to the staff of the Chief Political Officer at Tukuyu, and, gradually, as Political Officers were posted to the districts comprising this area, namely, Rungwe, Ufipa, Iringa, Mahenge and Songea, their accounting operations came under the direction of the Financial Officer, but control was not transferred to the Civil Government proper until 1st March, 1918, on which date also

the accounts of the Political Officers in the Central Area were likewise transferred. The accounts of the Political Officers in the Songea and Lindi districts did not come under civil control until the 1st January, 1919. The financial transactions of the island of Mafia were incorporated in the Tanganyika accounts as from the 1st January, 1918. The Civil Administration became liable for the cost of three battalions of the King's African Rifles forming the garrison of Tanganyika Territory as from 1st February, 1919, and for the cost of maintaining the railway system as from 1st April, 1919.

It will be observed from the table given below that the expenditure for the year 1919-20, exclusive of the cost of the garrison, exceeded the revenue by £120,929. In this year for the first time railway expenditure, showing a deficit, appears in the budget, the railways up to the end of March, 1919, having been run and paid for by the military authorities. For the year 1920-21, by which time most essential services had come into being, expenditure mounted to nearly one million pounds, and it was found necessary to obtain a grant-in-aid of £316,000 from the Imperial Treasury in order to meet the considerable railway deficit and to provide for essential disbursements in excess of revenue. A further sum of £92,109 was received by way of grant-in-aid in 1921-22. These two grants comprise the only grants-in-aid received by the Territory. All subsequent financial assistance from the Imperial Exchequer consisted of loans, the nature of which is explained in a subsequent paragraph.

From the year 1919-20 to the year 1926-27 inclusive there was an annual deficit on the total budget. In the early years the deficits were to some extent occasioned by the necessity of paying for stores, equipment, etc., taken over from the military authorities at the end of the war; and considerable expenditure had to be met in reconditioning the Government steamer *Lord Milner* in South Africa, and in salvage operations in connexion with the clearance of the Dar es Salaam harbour, which was partly blocked up by the Germans, who sunk the dry dock and the s.s. *König* in the entrance channel to the harbour. By 1923, however, the Government had cleared off outstanding debts in respect of salvage stores

taken over by the Railways and other departments; the liability in respect of the garrison had been settled; the equipment and stores taken over from the military authorities by the three King's African Rifles battalions had been paid for; the military telegraph lines and material were valued and payment effected; and other similar items were settled. The final payments in respect of German-owned property acquired by Government were made in 1924-25, and the financial arrangements of the Territory were then clear from debts arising out of the establishment of the Civil administration of the Territory.

The key, however, to the financial situation of Tanganyika was to be found in the Railway budget. It was impossible to consider the financial results of the railway working as an isolated question and without regard to the advantage which the Territory derived in development and, consequently, in revenue from the railway service. At the same time, had the Territory been free from the Railway deficit, the budget would have shown a surplus at a much earlier date than 1927-28, when for the first time there was a net Railway surplus of over £50,000, thus justifying the capital expenditure sunk in renovating the line and rolling stock, the policy of fostering the transit trade with the Belgian Congo and of increasing local traffic by the development of production and the construction of feeder lines.

In that year also the Railway accounts were separated from the General Estimates, the latter showing only the net results of the year's working of the railways, a change which must be borne in mind when comparing the revenue for 1927-1928, as shown in the table below, with that of previous years.

In 1928-29 the Railway net profit amounted to £94,221, and for the first time this surplus was not incorporated in the General Revenue figures of the Territory, but was carried to a deposit account to be used for railway purposes, such as the financing of minor works of a capital nature.

The following table gives the actual Revenue and Expenditure (not including Guaranteed Loan Expenditure) from the establishment of Civil administration to 1928-29, and the estimated Revenue and Expenditure for the years 1929-30

and 1930-31, the financial year in each case being from the 1st of April in any one year to the 31st of March in each succeeding year.

REVENUE

Year.	Ordinary Revenue.	Railway Revenue.	Total.
1917-18	£337,325	..	£337,325
1918-19	461,842	..	461,842
1919-20	565,319	£103,778	669,097
1920-21	790,467	156,377	946,844
1921-22	782,526	195,666	978,192
1922-23	1,001,040	227,546	1,228,586
1923-24	1,073,779	241,409	1,315,188
1924-25	1,240,054	318,928	1,558,982
1925-26	1,570,571	404,829	1,975,400
1926-27	1,691,762	511,146	2,202,908
1927-28	1,853,828	50,279*	1,904,107
1928-29	1,972,858	†	1,972,858
1929-30	1,942,735	†	1,942,735
1930-31	2,054,500	†	2,054,500

* Net revenue.

† Railway net revenue not included.

EXPENDITURE

Year.	Ordinary Expenditure.	Extra-ordinary Expenditure.	Railway Ordinary Expenditure.	Railway Extra-ordinary Expenditure.	Total.
1917-18	£153,282	£14,416	..	..	£167,698
1918-19	308,311	74,786	..	..	383,097
1919-20	428,471	82,964	£262,240	£16,351	790,026
1920-21	908,611	81,776	349,611	49,356	1,389,354
1921-22	1,153,637	147,571	387,014	119,668	1,807,890
1922-23	1,264,183	160,420	353,651	33,618	1,811,872
1923-24	1,072,835	209,759	333,629	284,935	1,901,158
1924-25	1,025,031	228,676	355,654	135,287	1,747,578
1925-26	1,226,393	222,051	404,906	380,276	2,233,626
1926-27	1,430,395	152,690	486,753	242,806	2,312,644
1927-28	1,520,390	186,806	..	100,906	1,808,102
1928-29	1,656,085	216,922	..	8,998	1,882,005
1929-30	1,739,100	328,554	..	3,146	2,070,800
1930-31	1,904,387	241,525	..	..	2,145,912

The following abstract of the actual ordinary expenditure for the years 1923-24 to 1928-29 and of estimated ordinary expenditure for the years 1929-30 and 1930-31 is of interest in that it shows the increases of the various departmental activities during that period:

Heads of Expenditure.	Actual. 1923-24.	Actual. 1924-25.	Actual. 1925-26.	Actual. 1926-27.	Actual. 1927-28.	Actual. 1928-29.	Estimated. 1929-30.	Estimated. 1930-31.
ORDINARY								
Charges on account of Public Debt	£22,341	£3,138	£5,943	£43,329	£54,000	£48,645	£49,900	£49,914
Pensions and Gratuities	4,015	4,881	5,081	9,236	13,015	18,512	20,000	19,400
The Governor	8,165	7,484	9,081	10,298	10,297	10,949	10,000	9,582
Secretariat	12,911	12,785	13,180	16,316	17,185	17,982	19,000	22,639
Legislative Council	11,047	8,505	10,770	15,884	390	694	1,000	1,107
Printing and Stationery	168,840	178,483	264,856	292,108	312,169	340,297	370,000	430,553
Provincial Administration	14,065	15,815	15,390	17,180	17,701	18,451	20,000	21,631
Treasury	24,060	26,126	28,365	30,604	32,086	33,292	37,300	39,762
Customs	37,805	26,142	14,789*	4,274	6,221	8,618	11,300	17,537
Labour	7,386	7,155	7,632	7,733	12,126	12,434	9,000	10,226
Port and Marine	23,153	23,179	16,980	16,964	16,720	18,068	18,900	21,640
Audit	113,116	113,856	124,422	2,700	2,986	4,945	6,500	7,577
Judicial	91,341	106,127	147,703	128,444	133,499	136,300	139,300	148,464
Administrator-General	30,434	33,326	39,055	43,896	45,872	49,717	54,900	60,788
Police and Prisons	11,024	15,724	28,491	45,923	59,682	75,947	95,000	127,211
Veterinary	8,275	7,795	14,966	19,222	15,322	13,827	15,300	15,404
Education	146,078	124,460	138,565	136,076	132,433	130,159	124,500	99,895
Transport	91,888	31,757	31,016	61,268	55,199	79,221	70,000	79,254
Military (King's African Rifles) (Commitments)	61,616	63,450	63,515	70,817	81,074	86,213	83,900	78,253
Miscellaneous Services	21,870	27,107	30,273	34,048	40,156	52,664	74,300	68,050
Posts and Telegraphs	12,872	14,005	15,865	17,417	19,388	21,361	23,800	28,784
Agriculture	7,461	10,391	21,375	31,408	17,280	15,997	15,200	17,072
Forests	25,840	27,291	29,874	4,855	19,235	19,235	5,900	7,899
Game Preservation . . . . .	..	..	..	29,046	4,815	5,589	..	..
Land . . . . .	..	..	..	..	..	..	..	..
Survey and Mines . . . . .	..	..	..	..	..	..	..	..
Nyanza Salt Mines	5,834	7,379	8,914	4,819*	30,013	36,848	37,300	42,123
Mines . . . . .	..	..	..	..	..	..	..	..
Geological Survey . . . . .	..	..	1,711	4,490	5,273	6,797	9,100	10,052
Electricity	9,427	9,930	13,331	16,306	16,139*	7,623	10,800	12,646
Dar es Salaam Township Authority . . . . .	..	..	..	..	..	..	..	..
Public Works	39,548	44,118	51,378	67,998	69,189	72,774	81,600	86,886
Public Works Recurrent	62,442	70,496	72,740	58,782	55,771	64,463	75,000	87,986
Total	£1,072,835	£1,025,031	£1,226,393	£1,430,395	£1,520,390	£1,656,085	£1,739,100	£1,904,387

* Thenceforward taken over by the Railways.

Loans. It was stated above that, apart from the two annual grants-in-aid of £316,000 and £92,100 for the years 1920-21 and 1921-22 respectively, all subsequent financial assistance from the Imperial Exchequer had consisted of loans. The following loans have been received by the Territory:

1920-21 Exchequer Loan	. . . . .	£14,000
1921-22 „	. . . . .	821,891
1922-23 „	. . . . .	800,000
1923-24 „	. . . . .	750,000
1924-25 „	. . . . .	350,000
1925-26 „	. . . . .	350,000
1925-26 Arrears of interest capitalized .	. . . . .	49,555
		<hr/>
		£3,135,446
		<hr/>

These loans have been used as follows:

Railway capital expenditure, 1921-22 to 1928-29	£1,290,468	
Accumulated deficits on Railway recurrent accounts, 1921-22 to 1925-26	449,506	
	<hr/>	£1,739,974
Other capital expenditure, 1921-22 to 1925-26		894,678
Accumulated deficits on current account of the General Estimates, 1921-22 and 1922-23		448,093
Capitalization of arrears of interest as at 31st March, 1926		49,555
Unexpended balance (required to complete approved works)		3,146
		<hr/>
		£3,135,446
		<hr/>

Interest and sinking fund are paid on £2,059,938 only, and the annual charge on the revenue of the Territory on this account is £124,654. The balance of the loan, amounting to £1,075,508 in respect of reparation of war damage and accumulated Railway deficits and deficits on current account, has been granted free of interest until 1933, when the question of the funding of this amount comes up for consideration.

In 1926 the Imperial Government approved the issue of a loan covered by an Imperial Guarantee, and known as the Palestine and East Africa Loans (Guarantee) Act of 1926, in connexion, primarily, with transport development in East Africa, up to an amount not exceeding £10,000,000. The

precise works to be undertaken from this loan were settled in England after a thorough scrutiny of the financial and economic prospects of each individual project by a small committee constituted for that purpose. The programme of works in Tanganyika which is being met from this loan (known, for convenience, as the 'Guaranteed Loan') is as follows:

Railways:		Estimated Cost.
Completion of Tabora-Mwanza Line		£697,000
Construction of the Moshi-Arusha Line		323,000
Relaying Tanga Line		147,500
Surveys		57,000
General improvements		706,156
Telegraph construction		13,000
Ports and Harbours:		
Improvements:		
Dar es Salaam		136,368
Mwanza		3,000
Dar es Salaam, further improvements		140,000
Roads:		
Dodoma-Arusha road		60,300
Iringa-Tukuyu road		68,500
Miscellaneous roads		82,978
Ruaha Bridge		12,000
Staff and plant		27,950
Research:		
Buildings for Geological Survey and East African		
Agricultural Research Station		9,000
Tsetse Research		70,000
Expenses of Issue of the Loan		54,000
		<u>£2,607,752</u>

In 1927-28 it became necessary to make arrangements for financing Guaranteed Loan works pending the raising of the loan, as the liquid portion of the Surplus Balances did not prove sufficient for the purpose. Arrangements for temporary advances were therefore made with the Crown Agents for the Colonies, and during the year the sum of £1,063,000 was advanced. This sum, together with sums advanced from Surplus Balances, sufficed to finance loan works during the year. A loan of £2,070,000 was raised in June, 1928, on the

London market under the authority of the Tanganyika Loan Ordinance, at $96\frac{1}{2}$ per cent, the rate of interest being $4\frac{1}{2}$ per cent. Out of the proceeds the advances made by the Crown Agents for the Colonies were repaid and the Surplus Balance Fund reimbursed.

The cost of the loan works to be executed under the Guaranteed Loan, namely £2,607,752, is therefore in excess of the amount raised by the loan and the completion of the development programme will involve fresh borrowings, so that, sooner or later, it will be necessary to obtain a further loan under the Palestine and East Africa Loans Act, or otherwise under the Colonial Development Act of 1929, to which reference must now be made. This latter Act empowers His Majesty's Government to grant financial assistance in the form of grants or loans to Colonial Governments for the purpose of assisting agriculture and industries in the colonies, protectorates, etc., thereby promoting commerce with or industry in the United Kingdom. A schedule of works to be met from further loans has been drawn up, the estimated cost of the works totalling about two and a quarter million pounds. A sum of just over £100,000 has been sought as a free grant from the Colonial Development Fund, while in six cases a grant has been added to cover the interest on works for a varying term of years.

Summary. To summarize, it may be stated that the gross receipts of the Territory from all sources up to 31st March, 1929, amounted to twenty-one millions, and the gross expenditure, including the restoration of war damages and many new capital works and improvements of permanent value, totalled just over twenty millions, leaving a balance of one million. Of the gross receipts, fifteen and a half millions have been raised by taxation and otherwise in the Territory, two millions raised by loan, and some three and a half millions have been received from the Imperial Government. Of the last-mentioned amount, a little over two millions have been devoted to capital expenditure on which the full interest and sinking fund is being paid. £408,109 has been a free grant-in-aid and £1,075,500 a loan grant free of interest, the question of repayment being considered in 1933. Of the loan grant,

£177,909 has been used for the restoration of war damage and £897,599 to meet current railway and administrative deficits in the earlier years. In considering these deficits regard must be paid to the economic conditions of the Territory following the war, the heavy cost of the garrison (since reduced) which the military authorities who handed over the country considered necessary, and to the fact that the formation of a new administration necessarily precedes by a few years the fruit of its work. The financial improvement in the last six years has been rapid. 1921-22 was the low-water mark when railway and administrative deficits alone, apart from capital and special expenditure, totalled over half a million. Two years later the administrative deficit had disappeared and that of the railway was under £100,000, while to-day, after provision for interest on capital expenditure, loans and greatly extended public services, the Territory can present a budget balanced from its own resources and showing an accumulated surplus of about a million pounds. The surplus has not been achieved by a policy of retrenchment. On the contrary, Government activities during the period have increased considerably, and the cost of services such as medical and sanitation and education has expanded from £91,000 and £11,000 respectively in 1923-24 to £270,000 and £127,000 in 1930-31.

The increase in expenditure will continue, however, without any extension of departmental activities. The expenditure on pensions, for example, is still small, and that on personal emoluments has not yet reached the maximum which may be expected with the present establishment. It may be assumed, therefore, that unless revenue continues to expand in the future as it has done in the past, the annual surplus of revenue over expenditure will tend to decrease yearly.

On the establishment of Civil administration the taxes ^{Taxation.} continued to be collected under Ordinances enacted by the German Government until such time as local legislation could be passed to replace them. In the year 1922 a number of new legislative measures affecting taxation were passed, viz. the Hut and Poll Tax Ordinance, the House Tax and Municipal House Tax Ordinance, and the Estate Duty Ordinance, while,

in the following year, the Profits Tax and Trades Licensing Ordinance became law.

These fiscal measures did not differ in principle from the corresponding revenue enactments in force in the days of the German administration. With these principles local residents were familiar and, accordingly, the transition occasioned little inconvenience to those from whom taxes were due and to those charged with the machinery of collecting them. There was, however, one exception, namely, in the case of the Profits Tax and Trades Licensing Ordinances.

These Ordinances imposed an annual profits tax of 4 per cent on the net profits of a business and an annual licensing fee ranging from £1 for a native to £20 for a wholesale trader. The former Ordinance, however, required merchants to keep books in an intelligent form and in either English or Swahili in order that the profits could be ascertained by inspecting officers.

The Ordinances, which were published early in the year, passed without comment until late in March, 1923, when a protest against their introduction was received from the Indian traders, who appeared to be under an entire misapprehension as to their nature and effect and demanded their repeal, predicting, otherwise, wholesale insolvency and financial chaos. The operation and effect of the Ordinances were carefully and patiently explained to the Indians but without result and all Indian shops closed on 1st April. The agitation was maintained until the middle of May, when all Indian shops were reopened.

Certain amendments to the Ordinances were introduced in April, 1924, to meet the major objections raised by the trading community, but the Ordinances never worked satisfactorily and much revenue was lost owing to the difficulty of correctly ascertaining the profits, which continued to be assessed on a more or less arbitrary basis, in the absence of proper information. They were accordingly repealed in 1927 and the principle of a Profits Tax was abandoned. At the same time a new Trades Licensing Ordinance was enacted with the object of effecting such a revision of the fees payable in respect of certain classes of businesses as would produce an

annual revenue at least equivalent to that formerly obtained under the two Ordinances which it repealed. The new Ordinance has worked satisfactorily and no loss of revenue has resulted from the repeal of the unpopular and almost unworkable Profits Tax.

The main sources of revenue are customs duties and the native Hut and Poll Tax, which two together account in almost equal proportions for three-quarters of the total revenue, as will be seen from the following analysis of the revenue received for the year 1928-29:

DUTIES, TAXES, LICENCES, ETC.

		Percentage.
Hut and Poll Tax	£736,970	37·8
Native House Tax	9,911	0·5
Non-native House Tax	16,956	0·9
Customs Duties	697,881	35·8
Trades Licences and Profits Tax	59,700	3·1
Other Licences and Taxes . .	59,054	3·0
Fines and Miscellaneous Duties	36,299	1·9
	<hr/> £1,616,771	<hr/> 83·0

RECEIPTS FOR GOVERNMENT SERVICES, ETC.

Receipts for specific services . .	53,100	2·7
Miscellaneous fees and receipts, wharfage, etc.	41,605	2·2
	<hr/> 94,705	<hr/> 4·9

UNDERTAKINGS OF A COMMERCIAL CHARACTER APART FROM RAILWAYS

Post Office	76,914	3·9
Electricity and water services . .	9,656	0·5
Nyanza Salt Mines	6,200	0·3
	<hr/> 92,770	<hr/> 4·7

REVENUE FROM GOVERNMENT PROPERTY

		Percentage.
Land sales, rents, etc.	£71,515	3·7
Royalties	34,223	1·8
Sale of ivory	18,144	0·9
Interest	19,023	1·0
	<hr/> 142,905	<hr/> 7·4
	<hr/> £1,947,151	<hr/> 100·0
Accounting entries	25,707	
Total Revenue	<hr/> £1,972,858	

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Principal taxes. A complete list of the taxes in force in the Territory is contained at length in the annual Blue Book and would be out of place in this handbook, but it may be convenient to give brief details of the principal taxes and licences for which the average citizen or professional man may be liable.

Direct taxation. There is no direct taxation on non-natives with the exception of a poll tax of Shs.30 per annum imposed for purposes of non-native education. Natives pay direct taxation in the form of hut and poll tax, to which reference will be made later in this chapter.

Indirect taxation. Customs Duties.—A list of these is given in Appendix III. Death Duties (under the Estate Duty Ordinance).

SCALES OF RATES OF ESTATE DUTY

Where the principal value of the estate exceeds . . .	Estate duty at the rate per cent of:				
	£100 and does not exceed		£500		
" " 500	" "	1,000			1
" " 1,000	" "	5,000			2
" " 5,000	" "	10,000			3
" " 10,000	" "	15,000			4
" " 15,000	" "	20,000			5
" " 20,000	" "	25,000			6
" " 25,000	" "	30,000			7
" " 30,000	" "	40,000			8
" " 40,000	" "	50,000			9
" " 50,000	" "	60,000			10
" " 60,000	" "	70,000			11
" " 70,000	" "	90,000			12
" " 90,000	" "	110,000			13
" " 110,000	" "	130,000			14
" " 130,000	" "	150,000			15
" " 150,000	" "	175,000			16
" " 175,000	" "	200,000			17
" " 200,000	" "	225,000			18
" " 225,000	" "	250,000			19
" " 250,000	" "	300,000			20
" " 300,000	" "	350,000			21
" " 350,000	" "	400,000			22
" " 400,000	" "	450,000			23
" " 450,000	" "	500,000			24
" " 500,000	" "	600,000			25
" " 600,000	" "	800,000			26
" " . . .	" "	" "			27

Where the principal value of the estate exceeds		Estate duty at the rate per cent of:	
	£800,000 and does not exceed	£1,000,000	28
"	" 1,000,000	" 1,250,000	30
"	" 1,250,000	" 1,500,000	32
"	" 1,500,000	" 2,000,000	35
"	" 2,000,000	...	40

There is a reduction of rate for quick successions of the following scale:

Where the second death occurs within one year of the first death, by 50 per cent;

Where the second death occurs within two years of the first death, by 40 per cent;

Where the second death occurs within three years of the first death, by 30 per cent;

Where the second death occurs within four years of the first death, by 20 per cent;

Where the second death occurs within five years of the first death, by 10 per cent.

Provided that where the value, on which the duty is payable, of the property on the second death exceeds the value, on which the duty was payable, of the property on the first death, the latter value shall be substituted for the former for the purpose of calculating the amount of duty on which the reduction under this section is to be calculated.

Fixed duties may be paid:

- (a) If the gross value of the estate does not exceed three hundred pounds, a fixed duty of thirty shillings, or
- (b) If such gross value does not exceed five hundred pounds, a fixed duty of fifty shillings. Estate Duty does not apply to the estate of a person who at his death is living in a communal state in a native tribe.

LICENCES

	Shs.
Arms and Ammunition Licence (under the Arms and Ammunition Ordinance)	5
Auctioneer's Licence (under the Auctioneers Ordinance):	
For a General Licence:	
For one year	300
For half a year	150
For a Local Licence:	
For one year	160
For half a year	100
Bicycles; Registration Fee (under the Township Ordinance)	2

Dentists; Registration Fee (under the Medical Practitioners and Dentists Proclamation)	Shs. 60
Diamond Dealer's Licence (under the Diamond Industry Protection Ordinance):	
If issued on or before 30th June	100
If issued after 30th June	60
Dog Licence (under the Township Miscellaneous Fees Rules) in certain townships only	5
Game Licences (under the Game Preservation Regulations):	
(a) Annual licences:	
A Visitor's Full Licence	1,500
A Visitor's Temporary Licence	200
A Resident's Full Licence	300
A Resident's Temporary Licence	60
A Resident's Minor Licence	80
(b) Elephant and Giraffe Licence, to be issued only to the holder of a Visitor's or Resident's Full Licence:	
1st elephant	400
2nd elephant	600
Giraffe	150
(c) Professional Hunter's Annual Licence	20
(d) Trophy Dealer's Annual Licence	200
Legal Practitioner's Licence (under the Court Fees Rules):	
For Certificate of admission to practice	400
On each annual renewal of the Certificate	60
Medical Practitioners; Registration Fee (under the Medical Practitioners and Dentists Proclamation)	60
Motors (under the Motor Traffic Ordinance).	
1. For a yearly licence:	
(a) Motor cycle	20
(b) Motor cycle if used for drawing a side-car	30
(c) Passenger motor car fitted with rubber tyres the tare whereof—	
(i.) does not exceed 20 cwt.	60
(ii.) exceeds 20 cwt. but does not exceed 30 cwt.	100
(iii.) exceeds 30 cwt.	150
(d) Motor car fitted with rubber tyres constructed or adapted for use and used solely for the conveyance of goods in the course of trade or agriculture, the maximum weight of which does not exceed six tons	Nil

(e) Motor car as last described the maximum weight of which exceeds six tons	Sha. 800
(f) Motor car as last described but not fitted with rubber tyres, the maximum weight of which does not exceed two tons	150
(g) Motor car as last described but not fitted with rubber tyres, the maximum weight of which exceeds two tons but does not exceed six tons	200
(h) Trailer. (The same fee as for a motor car of similar maximum weight with or without rubber tyres as the case may be.)	
(i) Motor car, motor cycle, and trailer, the property of the Government	Nil
2. For a yearly dealer's motor car licence, for each motor car	30
3. For half-yearly licences, one half the fee for a yearly licence, and for quarterly licences one quarter of the fee for a yearly licence.	
4. For the re-issue of a motor car licence on transfer of ownership	5
5. For the issue of a certificate of registration	5
6. For a certificate of competence to drive a motor car	5
7. For an extension of a certificate of competence to another type of car	5
8. For a duplicate motor car licence or certificate of competence	5
Notaries Public and Commissioners for Oaths (under the Notaries Public and Commissioners for Oaths Ordinance):	
Application for Certificate	60
Annual renewal	40
Trades (under the Trades Licensing Ordinance).	
Annual licence fees for the business of:	
(a) A wholesale trader including import and export trade:	
Principal business	600
Branch business	300
(b) A wholesale trader not including import and export trade:	
Principal business	200
Branch business	100
(c) A retail trader, including importation:	
Principal business	300
Branch business	50

	Shs.
(d) Purchasing produce from natives for re-sale	100
(e) A retail trader not including importation	50
(f) A banker:	
Principal business	2,000
Branch business	500
(g) A shipping company or agency:	
Principal business	1,000
Branch business	100
(h) A lighterage or stevedoring company or both:	
At Dar es Salaam	1,000
At Tanga	500
At Lindi	300
Other ports free.	
(i) A commercial traveller	240
A monthly licence may be issued at	40
(j) Any business not enumerated above	100
A licence for any business other than (a) or (b) above conducted by a native:	
Principal business	20
Branch business	10

Exemptions

- (1) Business of a planter, farmer, stock raiser, market gardener or dairyman, who deals only in the produce of his own estate.
- (2) The business of a trophy dealer who holds a licence under the Game Preservation Regulations.
- (3) The business of an itinerant trader who holds a licence under the Itinerant Traders Ordinance.
- (4) A business for which a licence is required under any law for the time being in force relating to intoxicating liquor.
- (5) The business of a cotton buyer, cotton market buyer, cotton baler or cotton ginner who holds a licence under the cotton rules in force.
- (6) Letting rickshas for hire.
- (7) Mining under the authority of a prospecting licence or a mining lease granted under the Mining Ordinance or the Mineral Oil Ordinance.
- (8) Domestic industries carried on by natives, i.e. work carried on in private houses, rooms or places, in which neither steam, water nor other mechanical power is used in aid of the works carried on there and in which the only persons employed there are members of the same family dwelling there.
- (9) The trade or business of laundries.
- (10) The business of the milling and sale of locally grown timber.

- (11) The business carried on by Meat Rations Limited.
 (12) The business of leasing a Government market.

Fee for the transfer of a licence to different premises	Shs. 5
If the licensee is a native	1
Fee for the replacement of a lost licence	5
If the licensee is a native	1

House Tax (under the House Tax Ordinance).—An annual Other taxes. tax of five per cent of the net annual value of every house in the Territory with a minimum tax of Shs.24 for a house situated in a township, and of Shs.12 for a house situated elsewhere. Houses let at a rent and used exclusively for mission, educational or hospital purposes and houses belonging to Government are exempted.

Certain other exemptions are made in the case of natives.

Municipal House Tax (under the Municipal House Tax Ordinance).—In addition to House Tax under the House Tax Ordinance, an annual tax is payable up to fifteen per cent of the net annual value of every house in a township as may be prescribed.

The following rates are leviable:

Townships.	Percentage of net annual value.
Dar es Salaam	3½
Tabora (Inner Township)	½
Tanga	1½ { with a maximum of Shs.2 for native houses assessed at the minimum rate for House Tax.
Pangani	½
Bagamoyo	½
Namanyere	½
Bukoba	½
Kilwa	2½
Mwanza	5 { For non-native houses excluding Arab houses.

Hut and Poll Tax (Natives only).—A Hut and Poll Tax, on the lines of the hut and poll tax payable in adjoining British dependencies, had been payable by natives under German rule, the amount of the tax being three rupees. The rate of tax became six shillings with the introduction of the East African currency in 1922. The German legislation was super-

seded in 1922 by the Hut and Poll Tax Ordinance, which imposed a hut tax on every owner of a native hut, and a poll tax on every able-bodied native of the age of sixteen or over who was not the owner of a hut, the rate remaining at six shillings (except in the Bukoba District, where it was nine shillings) until 1925 when the rate was increased to ten shillings throughout most districts in the Territory. An amending Ordinance was enacted in 1928 to enable the amount of the tax to be raised for different classes of persons, as while the parent law allowed variations to be made for different districts, areas, places or tribes, it permitted no variations to be made between different classes of persons belonging to the same tribe and living in the same area. Among some tribes the degree of wealth varies among different classes, and it was desirable to take power to vary the amount of the tax according, broadly, to the capacity of the taxpayers to pay it. The maximum amount of the tax is twenty shillings and the amounts payable in the different districts of the Territory are shown in the table on the opposite page.

Currency. The following is a brief history of the coinage of this Territory.

Pre-war
coinage.

The coins minted in Germany before the war consisted of:

Deutsche Ostafrikanische Gesellschaft (the Company).	Deutsche Ostafrika (the Government).
Zwei Rupien.	1 Rupie.
Eine Rupie.	$\frac{1}{2}$ "
$\frac{1}{2}$ "	$\frac{1}{4}$ "
$\frac{1}{4}$ "	10 Heller (nickel).
Pesa.	5 " "
	5 " (copper).
	1 " "
	$\frac{1}{2}$ " "

Arising out of the transfer to the German Imperial Government of the sovereign rights of the Sultan of Zanzibar over the Territory, a contract was made in 1890 between the German Imperial Government and the Deutsche Ostafrikanische Gesellschaft (D.O.A.G.), under which certain prerogatives were retained by the Company, one of which was to coin and issue copper and silver coinage which was to be

Province.	District.	Rate of Tax.
Tabora .	Tabora	Shs.12
	Shinyanga	12
	Kahama	12
	Nzega	12
Mwanza .	Mwanza	10
	Kwimba	10
	Maswa	10
	Musoma	10
Kigoma .	Kigoma (Ujiji and Uvinza)	10
	„ (Tongwe, Bende and Holoholo)	8
	Ufipa	6
	Kibondo	6
	Kasulu (Heru)	4
	„ (rest of district)	6
Bukoba .	Bukoba (Karagwe)	10
	„ (rest of district)	12
	Biharamulo (Busambiro)	5
	„ (Ikusa Islands)	6
	„ (rest of district)	6
Lindi .	Lindi	10
	Mikindani	10
	Kilwa	10
Eastern .	Dar es Salaam (including Mafia Island)	10
	Morogoro	10
	Kilosa	10
	Rufiji	10
	Bagamoyo	10
Tanga .	Tanga	10
	Pangani	10
	Usambara	10
	Pare	10
Central .	Dodoma	10
	Singida	10
	Kondoa	10
	Manyoni	10
Mahenge .	Mahenge	6
	Songea	6
Iringa .	Iringa	10
	Njombe	8
	Rungwe	8
	Mbeya	8
Northern .	Arusha	12
	Moshi	12
	Mbulu	10
	Masai (Sonjo Tribe)	6
	„ (Masai Tribe)	15
	„ (natives of other tribes not owning cattle)	12

accepted as legal tender in the public offices of the Government.

The Deutsche Ostafrikanische Gesellschaft minted four silver coins, namely: two rupees, one rupee, a half rupee and a quarter rupee, and one copper coin known as the "pesa". The large two-rupee coin was issued to replace the Maria Theresa dollar, the latter being withdrawn from circulation by an Ordinance of the German Governor dated 1896. The other coins were similar to the Indian coinage, as it was decided that the coinage for German East Africa should, as far as possible, correspond to the Indian coin current in East Africa. The copper "pesa" was withdrawn from circulation early in 1910.

In a contract dated November, 1902, between the German Imperial Government and the Deutsche Ostafrikanische Gesellschaft, the latter renounced the right of mintage and issue of coinage reserved to them under the contract of 1890.

With regard to the German Government coinage, Ordinances were passed providing for four silver coins, one nickel coin, and three copper coins. The silver coins were two rupees, one rupee, a half rupee and a quarter rupee; the nickel coin was a ten-heller piece; and the three copper coins were five, one and half hellers. A subsequent Ordinance in 1912 introduced another nickel coin, a five-heller piece.

With regard to the two-rupee coin, it is interesting to note that the Deutsche Ostafrikanische Gesellschaft minted this coin, but although the German Government Ordinance provided for the coin, it was never minted by the Government. The history of the matter appears to be as follows:

At the time the Company became established, the Maria Theresa taler (dollar or real) had been in circulation for over a century. This coin was preferred by the natives in certain districts to the Indian rupee, the latter being mostly used by the Indian and Arab traders on the coast. An Ordinance dated 1893 prohibited the import of the Maria Theresa dollar and other dollars, and by an Ordinance of 1896 the Maria Theresa dollar was withdrawn from circulation. To replace this coin the Company introduced a silver two-rupee coin which was about the same size as the Maria Theresa

dollar, and was made receivable at public treasuries. In 1893 two-rupee coins to the value of Rs.7,008 and in 1894 to the value of Rs.94,700 were minted by the Company. As the one rupee came into general use among the natives the demand for the two-rupee coin became less. When the Government took over coinage in the Territory the coin values of the Company were continued, with the exception of the copper pesa. Hence, although the two-rupee coin was authorized as one of the coins of the Territory in accordance with the Currency Ordinance of 1904, it was never minted under that Ordinance, the quantity of the Company's two-rupee coins in currency being sufficient for the demand. It appears that this two-rupee coin minted by the Company was never withdrawn from circulation.

A certain number of coins were minted locally by the Germans during the war, but none of these coins were recognized by the British Government. They were as follows:

Twenty heller (copper).

Twenty heller (brass).

Five heller (brass).

There was also minted at Tabora a gold sovereign, worth fifteen rupees, from gold obtained from the Sekenke mine. At one time there was a demand for these sovereigns as curios, and they fetched much above their face value.

The conditions under which the war coins were minted are explained in German records. It appears that, after some experimental smeltings had been carried out in the workshops of the Railway Company at Tabora, the mint was definitely organized there under the direction of the technical advisers of the Kirona gold mines at Sekenke.

In May, 1916, in view of the possible occupation of Tabora, proposals were discussed for the removal of the mint to Morogoro or Kilosa. No action was taken, but the Governor issued instructions for the removal, or, if necessary, the destruction, of the minting stamp, before evacuation should take place. On account of a breakdown of the stamping machine, the whole of the July output of gold coins was stamped at the factory of the Ostafrikanische Ölfabrik

Gesellschaft at Lulanguru with the aid of an oil press placed at the disposal of the Government free of charge. Apart from this, the whole of the coins were minted at Tabora.

Furnaces, drilling machines, graphite crucibles—in short, all the machinery necessary for the mint, were commandeered or collected from various factories, but partly through hard wear and tear and partly through the action of the zinc on the graphite, the crucibles became worn out. The Amani Institute made some successful experiments in the production of crucibles, but owing to communication with Amani becoming cut off, the production of crucibles was not proceeded with. Three cases of graphite crucibles and a quantity of firebricks were, however, obtained from the blockade runner *Marie*, which ran into Sudi Bay about March, 1916.

As crucibles went out of service, the reduced smelting output was made up for by the stamping of the twenty-heller and five-heller coins out of brass sheets and, later, of twenty-heller coins out of copper sheets as well. These sheets were collected from all over the Protectorate.

Materials were obtained from different districts, and from the ships *Königsberg*, *König*, and *Sybil*; over 50,000 kilogrammes of brass and 13,000 kilogrammes of copper, besides zinc, lead, aluminium, etc., were collected, sufficient altogether for the mintage of coins to the value of one million rupees. Of the brass, over 18,000 kilogrammes was in the form of used cartridge cases, while English cartridge cases and shell cases were also used.

At first the German Governor was opposed to the stamping of coins from brass sheets and copper sheets, on the ground that the counterfeiting of such coins was easier than in the case of coins made from the standard alloy, but when it became evident that sufficient smelting output could not be maintained for the production of coins from the standard alloy, he agreed to the stamping of five-heller coins (and later of twenty-heller coins) from brass sheets. As the thickness of the sheets varied, some of the five-heller coins came out as light in weight as three grammes, the standard weight being five grammes. An amending Ordinance was therefore issued, and, later on, as the smelting position grew worse, a

further Ordinance was issued permitting the mintage of twenty-heller coins from copper sheets as well as from brass sheets. Of the twenty-heller coins only the first batch produced from brass sheets to the value of Rs.4,000 came out light in weight, viz. eight grammes. The rest of the production of twenty-heller brass coins came out up to standard weight, viz. eight grammes. The Ordinance as to weight was, therefore, not amended so far as the twenty-heller brass coins were concerned, but in the case of the copper coins the weight was placed at eleven to twelve grammes.

Until the scarcity of small coinage was relieved, some of the plantations and other employers of labour had issued private tokens called "marken". One such, stamped from brass, was issued by the Afrikanische Plantagen Georg Hirsch, Morogoro. It bears on one side a pair of antlers over the letter "H" enclosing a heart, on the other side the value, the numeral "15" in large figures over the word "Heller".

The prerogative to issue a paper currency was first conferred on the Deutsche Ostafrikanische Gesellschaft by the Sultan of Zanzibar in 1888, and was subsequently confirmed by the agreement of 1890 between the Company and the German Government. The Company restricted its currency efforts from 1890 to 1901 to the mintage of metal coin, and, by the later agreement with the German Government of 1902 referred to above, waived claims to the right of circulating notes as well as coinage. About this time, however, economic developments indicated the necessity for the circulation of a paper currency. Chiefly in order to supply this need, a syndicate of German banks, in conjunction with two local firms (the Deutsche Ostafrikanische Gesellschaft and Hansing & Company), succeeded in creating the Deutsche Ostafrikanische Bank, with its head office at Berlin, on 6th January, 1905.

In order to regulate the issue of notes in the Protectorate, an Imperial Ordinance was introduced in 1904, which authorized the issue of paper currency in the Protectorate, which privilege could only be acquired through a concession conferred by the German Imperial Chancellor. A concession was duly granted to the Deutsche Ostafrikanische Bank in 1905.

The first issue of notes by the Deutsche Ostafrikanische

German pro-
war notes.

Bank at a face value of Rs.5 was advertised on 1st December, 1905. In February, 1906, the Bank extended their issue to Rs.50 notes. In May 1906, the Deutsche Ostafrikanische Bank reported their first issue of Rs.10 notes, and in August, 1907, the first issue of Rs.100 notes. In 1912 the Deutsche Ostafrikanische Bank, encouraged by the favourable economic conditions then existing in the Protectorate, applied for and obtained Imperial sanction to issue Rs.500 notes. The Deutsche Ostafrikanische Bank reported in March, 1915, that up to 28th February, 1915, the total issue, after deduction of damaged notes withdrawn from circulation, of pre-war notes amounted to Rs.4,387,350, whereas according to the Concession it was entitled to issue three times the amount of fully paid up capital (in 1911 Mks.2,000,000 or Rs.1,500,000), or an aggregate amount of Rs.4,500,000, leaving a concessionary balance of Rs.112,450, which the Bank was at the above date, 12th March, 1915, still entitled to issue.

German war
or interim
notes.

In March, 1915, the Bank supply of pre-war notes had dwindled down to Rs.50,000. Owing to this scarcity of notes, the Bank asked the German East African Government for authority to issue Interim Notes. Authority was given to the Bank to print and issue Interim Notes as a measure of expediency for the duration of the war, with the stipulation, at first, that they would be withdrawn after the war and replaced by notes printed in Germany. The aggregate amount of the first issue was Rs.112,450, so that the maximum limit of Rs.4,500,000 fixed originally by the Concession was thus attained.

In April, 1915, the Governor authorized the Bank to issue, according to requirements, notes over and above the concessionary limit up to Rs.1,000,000 on depositing securities to the full extent thereof. The form of the above security deposits consisted of Protectorate silver money, bar gold and Government bills of exchange drawn on the Legation Treasury, Berlin, given to and in favour of the Deutsche Ostafrikanische Bank, Dar es Salaam, for silver drawn from the Bank by the local Government.

In September, 1915, a first deposit of gold for the issue of Interim Notes was lodged by the Bank with the Government:

this gold had been procured from the "Kironnda-Goldminen-Gesellschaft", Sekenke. Kilogrammes 250 approximately of fine gold in bar, value Rs.521,400, appear in the last statement rendered by the Bank to the Government on 6th June, 1916, as a security deposit towards the issue of Interim Notes. The total amount of silver deposited with the Government on the same date to cover the issue of Interim Notes in excess of the concessionary limit was Rs.945,000.

Towards the end of 1915 the Bank's supply of silver currency had become so drained that a notice was published in the Government Gazette whereby the Bank was relieved of its obligation to issue coins in exchange for notes until six months after cessation of hostilities.

Owing to the scarcity of paper in 1915 for printing bank notes, paper used for various Government publications was substituted for this purpose.

The Interim Notes were of the following values:

Rs.1, 5, 10, 20, 100, 200 and 500.

It will be seen that values of Rs.1, 20 and 200 were issued in Interim Notes, although these values were not included in the pre-war notes.

The last statement available of notes in circulation and the various forms of security deposited therefor was drawn up at Tabora on 28th July, 1916, by the Director of the Deutsche Ostafrikanische Bank. The following analysis is shown in the statement:

On 15th July, 1916, the total amount of pre-war and	
Interim Notes in circulation was	Rs.17,776,700
Issued under authority of the original Concession	4,500,000
In excess of the Concession	<u>Rs.13,276,700</u>

The concession required that a reserve of not less than one-third of the circulation should be maintained, and this reserve consisted of:

Silver rupees	Rs.1,265,783
Silver and gold of other currencies, bar gold and Imperial Bank notes	237,214
	<u>Rs.1,502,997</u>

The new East
African
currency.

The rise in the Indian rupee towards the middle and end of 1919 from an exchange value of 1s. 4d., which had been practically constant for a great number of years, to 2s., and at the beginning of 1920 to 2s. 8d., had placed a serious handicap on the inflow of British capital into East Africa, and with a view of counteracting those adverse conditions the rate of exchange was reduced and stabilized at 2s. early in 1920. Shortly after the stabilization of the rupee, however, the exchange value of the rupee in India fell below this figure, with the result that Indian rupees and notes were smuggled into Kenya and Tanganyika, where automatically they became worth two shillings. It was decided to replace the Indian rupee and its subsidiary coinage by an East African shilling, and a Currency Board was constituted in London to control a new coinage for East Africa. The new coinage was introduced into Kenya, Uganda and Tanganyika, and consists of a silver shilling as the standard, with a silver fifty cents coin (half-shilling), and subsidiary copper coinage of ten, five and one cent pieces. There is a note issue consisting of notes in the following denominations:

Shs.1,000
200
100
20
10
5

In addition to the German coinage referred to below, it was necessary to redeem Indian silver coinage in the Territory: redemption was effected at the rate of two shillings to the rupee, and Indian coinage ceased to be legal tender in the Territory as from the 23rd July, 1921.

Redemption
of German
currency.

On the establishment of British civil administration in 1917 the question of replacing the German coinage by British was considered, but it was impossible at the time to obtain British coinage in replacement and the German coinage continued to be utilized until it was possible to arrange for its redemption. The Metallic Currency Ordinance of 1921, which established the East African shilling with its subsidiary coins as the standard coin of the Territory, came into operation

on 1st January, 1921. The German silver coinage was then redeemed at the rate of two shillings to the rupee, and withdrawn from circulation and ceased to be legal tender as from 1st April, 1923. The subsidiary nickel and copper coinage (Heller) took longer to redeem, and it was not until August, 1925, that this coinage ceased to be legal tender.

The paper currency issued by the German Government was not recognized by the Government of the Territory. The claims of British holders of pre-war notes who had acquired those notes before the war, or of British nationals who had been compelled to surrender cash to the German authorities under war legislation in exchange for currency notes, fell within the terms of the Peace Treaty. In the case of other holders no special remedy was approved by the Treaty and holders could only look to the local assets of the Deutsche Ostafrikanische Bank to meet their claims. The local assets of the bank were, however, insufficient to pay more than a fraction of the amount claimed, and holders only received some fourteen per cent of the face value of the notes which they surrendered.

The credit facilities in the Territory may, generally speaking, be considered to be ample and the rates of interest charged reasonable. Both compare not unfavourably with conditions obtaining in other countries similarly placed. Reputable merchants have no difficulty in obtaining credit on good security, the average rate of interest charged being from seven to eight per cent. The banks do not as a rule, however, grant long-term loans on the security of the land, as they desire to keep their assets liquid, and in the case of joint-stock banks their funds, excluding capital reserve, are repayable on demand or within a period of twelve months.

The average rate of interest on fixed deposits is:

For three months	.	.	.	2	per cent
„ six	„	.	.	3½	„
„ nine	„	.	.	4	„
„ twelve	„	.	.	4½	„

the rate of 4½ per cent being the same as that allowed at

o

the time of writing by the principal banks in England for deposits fixed for twelve months.

The rates of exchange for drafts on London are as follows:

Mail transfer	$\frac{1}{4}$ per cent premium
Telegraphic transfer	1 „ „

The following banks are operating in the Territory:

The Standard Bank of South Africa Limited (Head Office, 10 Clements Lane, Lombard Street, London, E.C.4). This institution acts as bankers to the Government of Tanganyika, and first established a branch in the Territory at Tanga in October, 1919. It has offices at Dar es Salaam, Tanga, Tabora, Mwanza, Bukoba, Moshi, Arusha, Lindi and Morogoro. The bank is possessed of a capital, authorized and subscribed, of £10,000,000, of which £2,500,000 is paid up, and a reserve fund of £3,164,170.

The National Bank of India Limited (Head Office, 26 Bishopsgate, London, E.C.4). This bank first opened in the Territory at Tanga in October, 1916. The principal office in the Territory is at Dar es Salaam, and it has a branch at Tanga. The bank has an authorized capital of £4,000,000, of which £2,000,000 is paid up, and a reserve fund of £3,000,000.

Barclays Bank (Dominion, Colonial and Overseas) (Head Office, 54 Lombard Street, London, E.C.3) took over, in 1925, the National Bank of South Africa Limited, which first opened branches at Dar es Salaam and Tanga in November, 1916. It has a paid-up capital of £4,975,500 and a reserve fund of £1,550,000. The bank has branches at Dar es Salaam, Tanga, Arusha, Iringa, Bukoba, Mwanza and Moshi.

Banque du Congo Belge, Société Anonyme (Head Office, 14 Rue Thérésienne, Bruxelles). This bank was first established in Tabora during the year 1918, was transferred to Kigoma in 1918 and subsequently opened a branch in Dar es Salaam, where the principal office is now. The bank has a paid-up capital of Belgian francs 20,000,000 and a reserve fund of Belgian francs 43,250,000.

Banque Commerciale du Congo, Société Anonyme (Head Office, 14 Rue Thérésienne, Bruxelles). This bank was established in Dar es Salaam and Kigoma in 1919, and was closed

from 31st March, 1927, to December, 1927, when it reopened. The bank has branches in Dar es Salaam and Kigoma. It has a paid-up capital of Belgian francs 25,000,000 and a reserve fund of francs 12,525,000.

The business of these last two banks is mainly concerned with the transit trade to and from the Congo.

CHAPTER VIII

TRADE AND CUSTOMS

Value of
imports and
exports.

THE following comparative table gives the value of the volume of trade for the years 1921, 1926, 1927, 1928 and 1929. The figures given are exclusive of bullion and specie:

	1921.	1926.	1927.	1928.	1929.
	£	£	£	£	£
Imports .	1,426,125	3,152,422	3,672,064	3,737,358	4,285,952
Exports .	1,246,870	3,129,292	3,440,576	4,050,594	3,988,365
Transit .	142,764	1,423,045	1,493,010	2,061,078	2,531,205
Total .	2,815,759	7,704,759	8,605,650	9,849,030	10,805,522

Countries of
origin.

Of the import trade in 1929, 54·9 per cent was with the United Kingdom and British possessions, while, of the remainder, the principal countries of origin were Germany, Holland, the United States of America and Japan, with 12·2, 8·0, 8·0 and 6·0 per cent respectively.

Principal
imports.

The following table illustrates the comparative value of the principal items of imports for the years 1925, 1926, 1927, 1928 and 1929:

[TABLE

Articles.	1925 Value.	1926 Value.	1927 Value.	1928 Value.	1929 Value.
	£	£	£	£	£
Cotton piece-goods .	954,689	817,576	944,915	928,252	903,384
Cotton blankets .	75,433	52,548	61,005	60,965	71,306
Foodstuffs:					
Grain	61,870	66,611	58,384	52,870	126,740
Flour, wheat . . .	33,814	39,673	44,795	51,782	62,122
" maize	15,918	30,847	33,105	15,554	21,011
Sugar	38,918	51,120	61,750	67,696	71,518
Other foodstuffs .	131,860	160,994	169,377	193,924	203,412
Building materials (in- cluding cement and galvanized iron sheets)	114,722	140,625	270,938	219,202	292,786
Petroleum lamp oil .	46,771	59,081	72,946	81,812	87,260
Motor spirit	33,448	58,942	93,304	105,362	150,197
Tobacco	23,903	30,301	28,676	35,353	34,569
Spirits	36,423	37,880	40,684	47,373	47,426
Machinery	115,967	162,274	171,133	220,498	264,616
Iron and steel manu- factures	294,271	297,724	297,110	235,686	227,035
Jute bags and sacks .	65,049	57,082	51,559	60,716	46,140
Cigarettes	30,995	34,892	49,405	60,796	75,116
Wines and beer . . .	24,306	30,126	36,811	37,552	43,925
Motor cars and lorries	72,336	100,792	127,360	130,270	178,597

The following table gives the comparative tonnage of the Principal principal domestic exports for the years 1913, 1925, 1926, ^{exports.} 1927, 1928 and 1929 and comparative values for 1925 on-wards:

[TABLE

Articles.	1913.		1925.		1926.		1927.		1928.		1929.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
Sisal . .	20,834	£688,541	18,276	£911,293	25,022	£1,160,735	33,012	£1,111,429	36,186	£1,485,593	45,728	£1,485,593
Groundnuts	8,961	178,685	9,055	254,903	15,867	238,082	14,147	188,682	10,595	120,448	7,765	120,448
Coffee .	1,059	481,055	6,009	495,199	6,539	463,420	6,595	739,657	10,431	588,871	8,857	588,871
Cotton .	2,192	540,481	4,502	427,437	4,886	361,916	3,940	495,405	4,893	487,863	4,947	487,863
Copra .	5,477	160,800	7,623	152,228	7,348	143,024	7,267	191,197	9,318	145,015	7,920	145,015
Hides and skins .	3,456	240,165	2,661	164,435	2,095	236,772	2,773	374,830	3,292	223,002	2,549	223,002
Grain .	2,232	94,341	7,392	92,365	7,722	120,213	10,102	155,777	14,138	95,091	8,048	95,091
Simsim .	1,476	71,561	3,396	68,585	3,563	74,017	3,733	61,342	3,215	74,773	4,256	74,773
Beeswax .	559	42,755	293	43,179	307	80,863	558	71,079	490	48,149	336	48,149
Ghee . .	338	33,770	383	32,577	371	30,015	396	37,924	500	36,547	454	36,547

The following table shows the comparative percentages of Distribution of trade. the value of the trade of the different ports for 1925 onwards:

	1925. Per cent.	1926. Per cent.	1927. Per cent.	1928. Per cent.	1929. Per cent.
Dar es Salaam . . .	56.0	53.9	49.8	48.5	51.1
Tanga	16.1	17.9	20.7	20.9	23.8
Mwanza	8.6	9.4	8.7	6.6	3.4
Bukoba	7.3	7.1	4.5	7.4	6.0
Lindi	3.8	3.0	2.8	2.8	2.8
Moshi . . . . .	..	3.8	4.3	3.9	3.2
Other ports . . .	8.2	4.9	9.2	9.9	9.7

At the conclusion of the war an agreement was entered into between Great Britain and Belgium known as the Milner-Orts Convention. Under the terms of this agreement there were established at Dar es Salaam and Kigoma leased sites under the control of the Belgian Government, and it is through these sites that the large and increasing transit traffic passes to and from the Belgian Congo and mandated territory of Ruanda-Urundi. The effect of the Convention is that formalities are reduced to a minimum since all this traffic passes over the Central Railway in sealed wagons, and is treated, in all respects, as if it were the whole time in Belgian territory.

The following figures illustrate the increasing value of the transit trade which passes over the Central Railway from Dar es Salaam to Kigoma and vice versa: ^{Transit trade.} ^{imports.}

IMPORTS IN TRANSIT

1925.	1926.	1927.	1928.	1929.
£494,603	£535,130	£493,394	£626,200	£720,317

EXPORTS IN TRANSIT

1925.	1926.	1927.	1928.	1929.	Transit exports.
£860,999	£869,915	£1,053,616	£1,434,878	£1,810,888	

The exports consist principally of copper ore and, to a much smaller extent, of cassiterites.

The East African Trade and Information Office, which is in charge of His Majesty's Trade Commissioner in East Africa (Colonel W. H. Franklin, C.B.E., D.S.O.), represents the interests in London of the various East African territories, ^{The East African Trade and Information Office.}

including Tanganyika. The address of the office is 32 Cockspur Street, London, S.W.1. The office has the following functions:

- (a) Advertising and supplying information to the press.
- (b) Keeping in touch with and reporting on markets.
- (c) Investigating complaints as to produce and trade generally.
- (d) Reporting on new avenues for East African trade.
- (e) Maintaining and displaying exhibits of produce.
- (f) Affording information to commercial interests and for the encouragement of private enterprise.
- (g) Working for the reduction and stability of freights and for a regular shipping service.

Trade and
Information
Local
Advisory
Committee.

The policy of the Office in dealing with affairs affecting the Tanganyika Territory is directed by the Tanganyika Government. There is a local Advisory Committee, consisting mainly of unofficials nominated by the Governor and by representatives of the various mercantile and planters' associations, which collects and disseminates all information likely to be of advantage to the trade of the Territory. The Committee, of which the Comptroller of Customs is the chairman, keeps in close touch with the East African Trade and Information Office in London and with public organizations in Tanganyika.

Customs.

The Customs of the country are controlled by a management Ordinance (Chapter 57 of the Laws) and Regulations which are practically identical in tenor with the Customs laws in force in Kenya and Uganda. They are on usual and generally accepted lines.

Customs
duties.

The customs duties payable are governed by the Customs Tariff Ordinance enacted on 17th April, 1930, and are detailed in Appendix III. The Ordinance provides for the imposition of suspended duties on certain articles of local produce in order to afford the latter a measure of protection. In Tanganyika suspended duties have been imposed on bacon and ham and prepared wheat.

Customs
agreements
with Kenya
and Uganda.

Agreements exist between Kenya, Uganda and Tanganyika under which all goods, wares and merchandise, the growth, produce or manufacture of any of the three territories, are admitted free of duty into the consuming territory, and whereby duty-paid goods which have been imported into

any one of the territories may be transferred to any of the other territories. In the case of duty-paid goods the Government of the consuming territory collects from the Government of the original importing territory any duty which may be due. Certain forms are required to be filled in by the consignors of the goods, but the formalities necessary are simple and the correct allocation of import duty to the territories concerned is assessed.

On arrival at the ports of the Territory passengers are required to fill in a declaration as to their baggage and personal effects. Practically all used articles are allowed in free of duty, the exceptions being arms, ammunition, carriages, motor vehicles and bicycles. Alcoholic liquors not exceeding one pint, cigars not exceeding fifty, cigarettes not exceeding one hundred and tobacco not exceeding half a pound in weight are admitted free.

Deposits, refundable in full, are accepted in respect of the following:

- (1) Samples.
- (2) Firearms when imported by passengers for their personal use, provided that they are re-exported within six months of the date of importation.
- (3) Articles brought in for local exhibition, including stage properties, provided that they are re-exported within three months of the date of importation.
- (4) Motor cars and motor cycles brought in by passengers for their personal use, provided that they are re-exported within six months of the date of importation.
- (5) Typewriters brought in by passengers for their use, provided that they are re-exported within six months of the date of importation.

CHAPTER IX

NATURAL RESOURCES

(a) AGRICULTURE

General. AGRICULTURE is the primary source of wealth in Tanganyika and is likely to remain so, although the country has other resources which, as yet, are almost untapped. In its five million head of cattle the Territory possesses a great potential asset, but until the native attaches to his herds an economic rather than a sentimental value, this wealth of stock will remain as locked-up capital. Again, the minerals of Tanganyika are only now being systematically investigated, but if, as is to be hoped, they repay development on a large scale, agriculture will still be of vital importance, not only for what it can export, but for what it can supply to the mining fields.

The wide range of climatic conditions, varying from the almost English atmosphere of the northern and southern highlands to the steamy heat of a tropical coast-belt, permits the production not only of the more generally known tropical crops, but also of a large variety of sub-tropical crops, while even wheat is grown successfully.

The satisfactory progress of recent years may be judged from export statistics. Whereas, for example, in 1913, 42,000 tons of the more important agricultural products of a value of £950,000 were exported from German East Africa (including the rich provinces of Ruanda-Urundi which are now under Belgian administration) the export of the same products in 1929 reached a total of 87,200 tons, with a value of £3,020,000.

By 1914 the suitability of the Territory for the cultivation of such crops as sisal, coffee, cotton, groundnuts and simsim had been fully proved, but the war, of course, brought the agricultural progress of the country to a standstill, and the newly established Department of Agriculture in 1920 was faced with the problem of reorganizing the agricultural life of the community.

Native production in the early days of the Civil Administration of the Territory was disorganized by the lack of good seed and the absence of markets, the fertile districts of northern Tabora and southern Mwanza being remote from the railway, while the feeder roads, over which hundreds of motor lorries laden with cotton and groundnuts now travel in the produce season, had still to be built. But it was clear that if the native was to pay his tax, still more to contribute a larger sum towards social services, he must be given an opportunity of doing so through the medium of exportable commodities. Progress in native production has been brought about by the provision of seed, by experimenting for new and improved varieties and strains, and by agricultural propaganda conducted through the medium of Administrative and Agricultural Officers and of a staff of trained native instructors. Experimental stations maintained by the Department of Agriculture, and agricultural demonstration seed farms financed by the native Administrations and operated under the direct supervision of Agricultural Officers have done much good work in disseminating improved seeds and the knowledge of better methods of husbandry, while in the Tabora, Central and Mwanza Provinces natives have been instructed in the use of ploughs, and in the training of oxen for ploughing. At the same time, without the improvement of communications, this assistance would only have borne fruit in those districts close to the railway, and the impetus given to native production in recent years is largely due to the construction of the Tabora-Mwanza railway and to the development of motor transport which has brought within reach of markets great areas which formerly had remained untapped.

The serious failing in native cultivation is the almost

universal lack of suitable preparation of the land, although certain parts of the Territory, notably parts of Shinyanga and Mwanza, afford a welcome exception to this rule. There are actually all gradations of tillage to be seen, from the mere scratching of the soil and planting on the flat, which is common in the Morogoro and Rufiji districts, for example, to a comparatively high standard of cultivation which is practised in certain restricted areas. The Government has done and is doing much to bring about improved tillage methods.

Under present conditions these primitive methods of cultivation are of little moment in normal seasons, as the native farmer has more or less unlimited land for his use. In bad seasons, however, he suffers for his indolence, as good cultivation would bring sufficiency when the actuality is famine, so that in those parts where the rainfall is precarious the improvement of native methods of husbandry is of paramount importance.

The wants of the average native have been simple in the past, and the natural fertility of the soil, with the abundance of wild fruits and edible roots in many localities, has necessitated only a small expenditure of labour to provide for his food requirements in an ordinary year. The wants of the native, however, are steadily increasing through contact with European civilization, and this should bring about an increase in the production of exportable crops.

Native cash crops comprise oil seeds, such as groundnuts and simsim, and grains which are exported. Natives also grow approximately three-quarters of the cotton crop and are responsible for the same proportion of the export of coffee, the greater part of which comes from the Bukoba district.

Non-native
agriculture.

Non-native cultivation was equally retarded by the war, and for the best part of four or five years most of the plantations received only the minimum of attention, while others went to rack and ruin. When the ex-enemy owners were deported or interned the estates were leased for short periods for the gathering of the crops, and though the conditions of the leases provided for upkeep and replanting, it was beyond human nature to expect that temporary tenants should

evinced the same enthusiasm for the welfare of the plantations as permanent occupants. Until these estates were disposed of, then, the production of sisal and coffee, the two principal crops, was much below the pre-war average, and even after the properties had been taken over by their purchasers much time and money had to be expended in restoring them to full working order.

Non-native cultivation is chiefly concerned with sisal in the Tanga, Pangani, Dar es Salaam, Morogoro and Lindi districts; with coffee in the Usambara, Moshi, Arusha and, to a small extent, Rungwe districts; with cotton in the Morogoro, Kilosa and Rufiji districts; with coconuts, to a large extent, in the Tanga and Dar es Salaam districts, and with tobacco and mixed farming in the highlands of the Iringa Province.

Estate agriculture in the southern highlands is still largely experimental. The main crops being attempted are coffee and tea, and should these prove successful a steady development and increase of exports are likely to follow. Pig-rearing and maize-growing are providing a source of income in the meanwhile, the latter for local consumption.

Non-native agriculture now accounts for just over half the value of the export crops, owing, largely, to the great output of that valuable commodity, sisal.

The variety of food crops compares well with that in other Food crops. regions of tropical Africa, those that are of most general distribution throughout the Territory being as follows:

- (1) The various grains, including numerous varieties of millets, sorghums, maize, rice and, in the highlands, wheat.
- (2) The different kinds of beans, including Lima beans, the cowpea, pigeon pea, green and black gram, mung bean, bonavist bean, dwarf beans and, to a much smaller extent, the sword bean.
- (3) Oil seeds, of which the chief are the groundnut, the Bambarra groundnut and simsim.
- (4) Root and rootstock food crops, principally cassava, sweet potatoes, yams, taro, eddo and potato.
- (5) Various gourds, including the pumpkin, gherkin, species of cucumber and also the loofah.

- (6) Condimental or luxury plants such as the onion, chillies, betel pepper, tomato, egg plant, brinjal, ochra, roselle, sugar cane and coffee.
- (7) Fruit plants, which receive the least attention of all, such as the banana, plantain, mango, pawpaw, pineapple and coconut.

In the highlands of the Uluguru and Usambara Mountains fruit, such as peaches, plums, figs, apples, apricots, etc., is produced by non-native planters. Strawberries thrive in the northern and southern highlands, as do European vegetables and flowers of every description.

Export
crops.
Beeswax.

The principal export crops will now be dealt with in detail. Beeswax has been an important article of trade for a considerable time, the quantity exported as far back as 1908 being 543 tons valued at £58,406. In the next few years the exports fell, owing, apparently, to the wasteful methods of collection, which usually entailed the destruction of the bees. Production, however, has gradually increased of later years.

The wax comes chiefly from the Mwanza, Tabora, Central and Eastern Provinces and from the southern coastal belt, the collection being entirely in the hands of the natives. The methods used by the natives for collection are primitive, and mostly consist of simple robbery and the complete destruction of the wild nests. Systematic beekeeping exists only to a limited extent, but is spreading. The Department of Agriculture has recently introduced a conically shaped beehive, very simply constructed of bark with a metal queen excluder, which has the advantage of preserving the swarms. The use of this hive also prevents forest fires to a certain extent, as, under primitive methods of collection, fire is largely used to destroy the bees and thus permit access to the comb.

Honey, which has a resemblance to the mead once brewed in England, is an article of native diet and is used for the brewing of beer, while the wax is also used in making candles, after an Eastern pattern, for local use.

The following table shows the amounts and values exported:

Year.	Amount.	Value.
	Tons.	
1912	347	£41,450
1913	559	70,745
1917	238	30,051
1918	269	23,304
1919	274	24,321
1920	262	28,130
1921	183	11,408
1922	233	24,792
1923	302	24,758
1924	425	44,666
1925	293	42,755
1926	307	48,179
1927	558	80,863
1928	490	71,079
1929	336	48,149

Copra, the dried kernel of the coconut from which coconut oil is extracted, is exported from the coastal belt and from the island of Mafia, and its production is one of the oldest industries of the Territory. It is estimated that of the total export seventy-five per cent is produced by non-natives, largely Arabs and Indians. As the palms take from eight to ten years before they come into bearing, the planting of them attracts little European capital, though a practice, the value of which has yet to be proved, has recently sprung up of inter-planting coconuts with young sisal. Apart from the amount exported, a good deal of copra is used locally in the manufacture of soap, while a considerable portion of the crop in the shape of the green nut is consumed by the native population.

Owing to careless methods of preparation, much of the copra exported from Tanganyika is of poor quality. But until there is a greater local variation in price between the inferior product and the good, the producer has little inducement to expend time and trouble in turning out copra of a higher grade, and it is pertinent to remark that copra artificially dried under European supervision has commanded only a slightly better price than the ordinary sun-dried product.

Bud rot and the rhinoceros beetle are the two worst enemies of the coconut palms in the Territory, but inspection by Agricultural Officers and the enforcement of the Plant

Pest and Disease (Coconut) Regulations has done much to improve the sanitation of plantations.

The following table gives the amounts and values of copra exported:

Year.	Amount.	Value.
	Tons.	
1912	4,242	£78,152
1913	5,477	110,734
1917	3,329	63,556
1918	2,440	34,909
1919	5,330	105,430
1920	4,404	145,355
1921	4,514	100,318
1922	4,771	89,633
1923	6,669	131,536
1924	8,125	178,194
1925	7,623	160,800
1926	7,348	152,228
1927	7,267	143,024
1928	9,318	191,197
1929	7,920	145,015

Coffee. Coffee of the *Arabica* variety was first introduced by the Roman Catholic Mission of the Holy Ghost in Moshi in 1893, and it was later started, early in the century, in the Usambara Mountains, though the gneiss soil of the Usambaras was not so suited to the plant as the volcanic soil of Mounts Kilimanjaro and Meru, where large plantations, both native and non-native, now exist. The crop soon established itself as a commercial proposition, and in 1899 coffee to the value of £4,817 was exported.

The native growers on Kilimanjaro have formed an association to care for their interests, to arrange for co-operative marketing and for the supply of spraying equipment, etc. Estate coffee has been confined to the Northern and Tanga Provinces until recently, when experiments have been made with it in the high rainfall area of the Iringa Province.

In distant Bukoba, as in Uganda, the hardier variety, *Coffea robusta*, is indigenous and its cultivation is mentioned by the early explorers Speke and Grant. Some of the trees in the district are said to be over one hundred years old. The *Arabica* variety was introduced into Bukoba by Roman

Catholic missionaries in 1896 and is now grown by natives equally with the *robusta* variety, though the latter largely predominates.

The *robusta* coffee finds its market on the Continent and in the Red Sea ports. It is inferior in quality to *Arabica* and the careless method of its preparation is causing concern to those associated with the industry. The heavy fall in Europe of the price of lower grade coffee and the flooding of the market with accumulated stocks of Brazilian coffee will react unfavourably on the inferior Bukoba product. The growth of the Bukoba coffee industry has been altogether extraordinary, the exports having risen from 403 tons valued at £13,942 in 1913 to 6,794 tons valued at £400,011 in 1929.

The following table shows the amounts and values of coffee, of both varieties, exported:

Year.	Amount.	Value.
	Tons.	
1912	1,547	£95,168
1913	1,059	46,563
1917	1,718	37,577
1918	1,556	33,427
1919	3,926	181,173
1920	2,143	136,867
1921	3,827	138,396
1922	4,271	203,784
1923	4,047	204,987
1924	5,261	352,529
1925	6,009	481,055
1926	6,539	495,199
1927	6,595	463,420
1928	10,431	739,657
1929	8,857	588,871

Coffee needs a heavy rainfall, fairly well distributed throughout the year, and only portions of the highland areas of the Territory enjoy a precipitation sufficiently favourable for its needs without irrigation. With a rainfall of less than fifty inches per annum it is necessary to irrigate, as a general rule. The best altitude for Arabian coffee in the Northern Province is between 5,000 and 6,000 feet. The *robusta* types are less sensitive to high temperatures and can be grown at lower levels, though not suitably below 3,500 feet.

Pests and diseases of coffee exist, but if the plants are naturally vigorous and the plantations properly cared for, these do not constitute a danger.

A Coffee Industry (Registration and Improvement) Ordinance was enacted in 1928 (Chapter 79 of the Laws) to provide for the compulsory annual registration of all coffee plantations and nurseries, the registration of marks used by planters to distinguish the coffee grown by them when exported from the Territory, the annual licensing of all dealers in coffee and the recording of all sales and purchases. The fee for the registration of a coffee plantation is Shs.1 and for a coffee dealer's licence Shs.5. The Ordinance was preceded by the issue of the Plant Pest and Disease (Coffee) Regulations, which provided specially for the prevention and eradication of pests and diseases to which coffee is liable.

Cotton. When the Germans first occupied the territory natives in the region of the great lakes were growing cotton for domestic use.

Attempts on the part of the Germans to establish cotton plantations can be traced back as far as the late eighties. Very little, however, came of such efforts until 1902, when the Kolonial - Wirtschaftliche Komitee (Colonial Economic Society) sent to Hamburg some samples of Egyptian cotton grown by them in the coast districts which met with a favourable reception on the home market.

In 1905 the Komitee founded a school at Mpanganya on the Rufiji River for the purpose of giving instruction to natives in the methods of growing cotton. This establishment was taken over by the Government in 1910, and was regarded as the model of the Government cotton stations, which, at the outbreak of war, existed elsewhere at Myombo in the Kilosa district and at Mahiwa in the Lindi district. The cotton stations were intended to fulfil the double purpose of teaching the natives to plant cotton and of supplying the colony with seeds.

While cotton was regarded primarily as a native product, the number of European plantations steadily increased. In 1910 there were seventeen estates, comprising about 5,000 acres, which were devoted to this product alone, and twenty-four other estates that grew cotton in addition to other crops. In 1913 the area actually planted with cotton by European

concerns was about 30,000 acres, a like amount being under cultivation by natives, and the Reichstag in that year voted a grant of £10,000 for 1913 and the three succeeding years for the encouragement of the cotton industry in the Protectorate.

The following table shows the amounts and values of cotton exported from the Territory:

Year.	Amount.	Value.
	Tons.	
1912	1,882	£105,000
1913	2,192	105,512
1917	910	73,720
1918	752	86,772
1919	741	62,334
1920	968	164,565
1921	1,096	118,619
1922	1,544	140,750
1923	1,469	177,710
1924	2,541	373,753
1925	4,502	540,481
1926	4,886	427,437
1927	3,940	361,916
1928	4,893	495,405
1929	4,947	487,863

The chief areas of production are in the districts of Mwanza, Morogoro, Kilosa, Shinyanga, Rufiji, Kilwa and Lindi, while the Bagamoyo, Handeni and Dar es Salaam districts show encouraging signs of increased productivity.

The cotton industry had passed beyond the experimental stage before the outbreak of war, and on the formation of an Agricultural Department in 1920 efforts were made to revive interest in a crop which promised to increase the purchasing power of the native over a large portion of the Territory.

As will be seen from the above table the last five years have shown a fairly constant production, the yearly variations being due to climatic conditions and to fluctuations in value. The latter have militated to some extent against increased production in native areas, as native growers are easily discouraged if a season's crop is unremunerative and are inclined, in the following year, either to abandon the industry altogether or to plant on a lesser scale. Before the war, the Kolonial-

wirtschaftliche Komitee countered the difficulty for some time by the guarantee of a minimum buying price to natives, but abandoned the experiment in 1912, owing to increased production and to fluctuations in the market value which exposed them to the risk of heavy loss. Native growers, however, are now becoming accustomed to these variations, particularly in districts where cotton has been an established crop for some years.

Approximately three-quarters of the cotton crop is produced by native growers, the remaining quarter being mainly produced in the Kilosa district by European planters, who are mostly of Greek nationality. The crop is becoming increasingly popular as an inter-crop with newly planted sisal.

The lowlands produce the superior cotton, and the first quality cotton is usually valued at about 2d. per pound more than that of the lakeland cotton of the Mwanza and northern Tabora districts.

A Cotton Ordinance (Chapter 80 of the Laws) was issued as early as 1920 to provide for:

- (a) The improvement of the quality of cotton grown.
- (b) The requisition of cotton seed for sowing purposes.
- (c) The prohibition of the import or use of cotton seed of any particular kind.
- (d) The regulation of ginning and ginneries.
- (e) The inspection of seed and plantations and the eradication of pests.
- (f) The establishment of cotton markets and the control of the sale, purchase and export of cotton.

Quality is ensured by distributing only seed of the first quality cotton, and cultural and variety experiments are constantly in progress at agricultural stations to improve the yield. Seed is requisitioned from the ginneries by Government at the end of the ginning season.

The marketing of native-grown cotton is regulated in order that the grower may receive a fair price for his cotton, as are the situations and powers of ginneries, the policy being to discourage uneconomic competition, both in ginning and marketing.

Pests and diseases are controlled by the familiar and simple measure of uprooting and burning the plants immediately at the end of the season. The pink boll-worm exists in the lowlands, but is kept well under control and does not constitute a menace. It has been possible to keep the tableland free from this pest. There are no other major pests or diseases.

A Cotton Advisory Board was formed in 1927 comprised of the Director of Agriculture, the Secretary for Native Affairs, the Comptroller of Customs and three unofficial members representing cotton interests in the Territory, to advise the Government in matters relating to the erection of ginneries, the marketing of cotton and, generally, in regard to the industry as a whole.

The exports of grain, other than rice, are making steady progress. They consist principally of native-grown sorghums and bulrush millet, but increasing quantities of maize are also being exported, much of which is grown by European settlers in the Northern Province. Grain (other than rice).

The exports of the small grains depend not only on the surplus over domestic requirements, which varies annually with the seasonal conditions of climate, but also on the demand, which comes almost entirely from North Africa and the East, and varies similarly with seasonal conditions in those countries.

The following table shows the amounts and values exported:

Year.	Amount.	Value.
	Tons.	
1912	1,942	£10,467
1913	1,098	6,232
1917	662	5,487
1918	2,916	39,456
1919	11,580	90,918
1920	18,569	253,171
1921	19,449	183,144
1922	18,912	224,537
1923	11,786	94,140
1924	14,483	130,295
1925	7,392	94,341
1926	7,722	92,365
1927	10,102	120,213
1928	14,138	155,777
1929	7,788	95,091

Groundnuts. The groundnut or monkey-nut is an oil-seed which is grown entirely by natives both as a form of food and as a crop for export. The nut is used extensively as a substitute for olive oil, and can also be used in soap manufacture and for lubricating and lighting purposes. The yield of oil is about forty per cent. Most of the groundnuts are exported to Continental markets, especially Marseilles, where they are ground up and the oil extracted, the residue being made into cattle cake. The exports vary somewhat from year to year according to whether the season is favourable or not, but the crop usually ranks fourth in value amongst the products of the Territory. In 1925 and 1929 it suffered severely from adverse climatic conditions. The future prospects for the industry are promising, as the greater part of the Territory is suitable for the growth of this nut, further extension of its cultivation for export being limited principally by lack of transport facilities and to some extent by the competition of cotton as a cash crop. The chief centres of production are in the Tabora, Central and Mwanza Provinces.

The following table shows the amounts and values of groundnuts exported:

Year.	Amount.	Value.
	Tons.	
1912	6,078	£63,653
1913	8,961	95,931
1917	1,674	19,186
1918	880	15,463
1919	824	17,933
1920	3,237	78,522
1921	8,448	141,475
1922	12,518	190,533
1923	16,508	264,129
1924	18,684	359,918
1925	9,055	178,685
1926	15,867	254,903
1927	14,147	238,082
1928	10,595	188,582
1929	7,765	120,448

Kapok. Plantations of this silk-cotton tree for the extraction of the floss attached to the seeds were established while the Territory was under German administration. In 1912, 6,580

acres had been planted up, the exports in that year being fifty-two tons, valued at £3,130. After that, the industry progressed but slowly, attaining an export quantity of ninety-one tons valued at £8,622 in 1927, which decreased again to fifty-one tons, worth £3,919, in 1928. Increased interest in this product has again been recently shown and fresh plantings are in progress. The product is in good demand in the making of life-belts and for the stuffing of pillows, mattresses and other such articles.

While rice is generally cultivated over the whole Territory, Rice. the main areas of production, wholly native, are the Mwanza district, the Kilombero flats of the Mahenge district and the Rufiji valley. The great part of the export crop comes from Mwanza and is consumed in Uganda and Kenya. The local demand on the Central and Tanga Railways and on the coast is met from the Kilombero and Rufiji valleys, but a considerable amount is also imported from India. The production of rice in the Territory is capable of wide extension, but is kept in check by the lack of cheap transport facilities.

Artificial irrigation of the crop is practically non-existent. It is mainly grown on the flats bordering large river systems, where the seed is sown direct and where there is little transplanting. Over the first two months of its life the crop is wholly dependent on rainfall, and, later, on the flooding of the land by the annual rise of the river levels.

There are numerous varieties of rice in the Territory, many of which were introduced centuries ago by Arabs and Persians, and later by Indians. The varieties are suited to three kinds of conditions and can be classed as (a) wet-land types, requiring an abundant supply of water and dependent on floods or irrigation; (b) hill-land types, which actually grow on the sides of the hills, and are dependent solely on the rainfall; and (c) upland types, intermediate between the wet-land and hill-land varieties, which are also dependent solely on the rainfall, but which require a deep rich soil with a high moisture-holding capacity.

The history of the rubber industry in the Territory makes Rubber. sorry reading. With the rise in the value of rubber in 1904 and 1910 great areas were planted up with the Ceara variety,

the acreage in 1912 amounting to over 112,000. At the end of 1913 there were close on twenty million trees in the Protectorate ready for tapping, mostly in the Morogoro and Tanga districts; but the crisis arising from overproduction in the East fell with unexpected suddenness on the plantations in German East Africa, and by the middle of 1914 the complete failure of the industry in the Protectorate was apparent to plantation owners. Realizing the hopelessness of the situation they contemplated uprooting their trees and replacing them with sisal. The outbreak of war, however, interfered with their plans, and these vast forests of rubber became derelict, affording to pig, baboons and other vermin a shelter from which adjoining cultivation could be raided with impunity.

In 1925 and 1926, when a substantial rise occurred in rubber, a number of these plantations were again tapped at a small margin of profit, and rubber to the value of £49,000 and £41,000 was exported in these two years. With the subsequent slump the plantations were once more abandoned and have now for the most part been cut down, the land being used, as contemplated by the former owners in 1914, for the cultivation of sisal. As an industry rubber planting in the Territory is now dead, and such plantations as remain serve only as a monument to an unsuccessful experiment.

The amount and value of plantation rubber exported is shown in the following table:

Year.	Amount.	Value.
	Tons.	
1908	..*	£20,798
1909	..*	55,887
1910	..*	164,597
1911	684	180,314
1912	1,030	362,012
1913	1,287	..*

* Figures not available.

There is a certain amount of wild rubber in the Territory, the chief indigenous rubber-yielding plants being *Landolphia Stolzii* and *L. dondeensis*. The former is a vine which occurs commonly in the area north of Lake Nyasa, and the latter

is a shrubby plant occurring in the southern parts of the Territory. As with plantation rubber, production has fallen to practically nothing and the export, which in 1910 reached 324 tons valued at £145,147, was in 1929 under ten tons valued at a few hundred pounds.

The exports of the oil-seed known as *simsim* or *sesame* have *Simsim*. not increased to any extent for some years, owing to the competition of more profitable crops, but its production affords a fair revenue to the native producers.

Two main types are grown, the white and the mixed, the former being in greater demand for export and fetching a higher price on account of the superior content and quality of its oil. This white type finds a very ready sale at about £8 per ton more than the price of groundnuts, and an endeavour is being made to replace the mixed (black and white) type with the pure white which is at present confined to the Lindi district. The oil of the white sesame has many of the qualities of olive oil, and is largely used for culinary purposes.

Simsim is principally exported from the Province of Lindi, but a surplus for export is also grown by the natives of the Kilwa, Morogoro and Mwanza districts.

The following table shows the amounts and values exported:

Year.	Amount.	Value.
	Tons.	
1912	1,881	£26,186
1913	1,476	20,407
1917	471	7,908
1918	642	9,836
1919	1,653	35,050
1920	856	26,298
1921	1,385	28,863
1922	2,778	49,573
1923	4,435	75,527
1924	3,909	80,324
1925	3,396	71,561
1926	3,563	68,585
1927	3,733	74,017
1928	3,215	61,342
1929	4,256	74,773

Sisal occupies the position of the premier economic crop of *Sisal*. the country, the fibre being used for cordage and binder twine.

The export in 1929 was no less than 45,728 tons, valued at £1,485,893, representing 39.9 per cent of the total value of exports. The industry is wholly in the hands of non-native planters, and mostly under company exploitation, as a large capital outlay is required to develop an estate and to erect a decorticating factory. Moreover, no return can be anticipated for three or four years (when the leaves are ready for cutting) except from catch crops, such as from maize or cotton, which can be grown between the rows of young sisal.

This plant (*Agave rigida* var. *sisalana*) was introduced into the country in 1893 by the Deutsche Ostafrikanische Gesellschaft, which brought a thousand bulbils from Yucatan, though a Dr. Hindorff is credited with importing a few suckers two years previously. While the majority of the plants died in the course of the long sea voyage, sufficient remained to start a nursery, and in ten years' time the cultivation of sisal on a commercial scale was well advanced in the districts of Tanga and Usambara. With a view to retaining, so far as possible, a monopoly in the cultivation of sisal, which had already fully proved its suitability in its new home, the German Government imposed in 1907 an almost prohibitive export tax on the sisal bulbils or suckers, but sufficient bulbils had already been obtained by British planters in the East Africa Protectorate to start plantations there. In 1910-11 there were fifty-four plantations in German East Africa, with 47,625 acres (19,140 acres bearing); in 1912-13 this had reached 61,878 acres (35,898 acres in bearing). The exports in 1911 were 10,989 tons of fibre valued at £226,612, and in 1912 amounted to 16,738 tons valued at £367,961. During the war the plantations were, of necessity, neglected, but rapid progress has since been made.

The plant can be grown under widely different conditions of soil and climate and is, therefore, not confined to any particular district, but the extent of its cultivation is governed by questions of transport and water supply. The agave seems to thrive on barren soil, and while the majority of estates are inland along the Tanga and Central Railways, plantations are also found on the Rufiji River and along the coast, particu-

larly in the Lindi district. Kilwa is a likely sisal area which is yet to be exploited.

In the interior, at a distance from the coast, the plant yields proportionately shorter fibre, which, however, is not a commercial drawback, but has a larger fibre content in the leaves than in the coastal districts.

The main problem in regard to this crop is to obtain a sufficient and fresh supply of water for the decorticating process. Water containing salts of any kind such as sea-water, is unsuitable, in that it attracts field life, such as mice, etc., to the binding twine. A large labour force is required, and the work is not popular with natives, as cuts and injuries are sustained in the cutting of the leaves, which have sword-like points.

The crop is remarkably free from insect pests and diseases.

The following table shows the amounts and values of sisal exported:

Year.	Amount.	Value.
	Tons.	
1912	17,080	£367,961
1913	20,835	535,579
1917	3,344	181,400
1918	7,954	274,841
1919	16,744*	436,224
1920	16,663*	571,887
1921	7,923	238,171
1922	10,224	289,388
1923	12,845	367,228
1924	18,428	644,835
1925	18,276	688,541
1926	25,022	911,293
1927	33,012	1,160,735
1928	36,186	1,111,429
1929	45,728	1,485,593

* Includes disposal of accumulated war stocks.

This industry, which has recently been begun in the high Tea. rainfall areas of the Tanga and Iringa Provinces, is still in its infancy.

In the former Province one large plantation is in existence and will shortly begin to produce tea, and other estates are beginning to follow the example of this pioneer. In the Iringa Province a fairly large planting, which has already reached

the producing stage, exists at Tukuyu, and small fields, chiefly experimental, were laid out in 1928 in other parts of the Province. The Government is providing £500, spread over two years, towards the cost of the purchase of tea seed for trial in the Iringa Province. While it must be emphasized that the industry is still experimental and that the quality of the tea has yet to be conclusively proved, an experienced tea planter has stated as his opinion that there are very good grounds for believing that tea of high quality could be grown successfully within the heavy rainfall belt of the southern highlands.

Tobacco. The cultivation of tobacco is largely an experimental industry in the Territory at present. The native has grown small quantities of tobacco for some years, but almost entirely for local consumption, though a small quantity, valued at between three and four thousand pounds, is exported annually to Zanzibar, Kenya and Uganda. Some years ago the Greek community at Tabora commenced growing Turkish tobacco and manufacturing Turkish cigarettes of an inferior quality, principally for export to the Belgian Congo, but this small industry, although it still exists, has made no progress.

Some attention has recently been devoted to the possibility of a Turkish and Virginia tobacco industry in the Iringa Province amongst European settlers, and of Virginia tobacco in the Songea district amongst natives. In the latter area the industry is confined to the production of a heavy Virginia tobacco for snuff and pipe. In the Iringa Province all three types, namely, heavy Virginia, light Virginia and Turkish tobacco are being tested by the settlers, and although the qualities of the crops produced compare very favourably with those of other countries, the industry is still in the experimental stage so far as marketing is concerned.

Light and heavy Virginia tobacco could be produced over large areas of the hot and dry zone of the central plateau of this Territory at altitudes ranging as high as 6,000 feet, where the rainfall is suitable and where the humidity is low. Turkish tobacco could be produced over large areas at altitudes up to 5,500 feet over the same zone but where the humidity is still lower. Much investigational work remains to be done to deter-

mine suitable types, methods of preparation of the leaf, soil requirements and suitability for oversea and local markets.

The Plant Pest and Disease Ordinance (Chapter 77 of the Laws) was enacted in 1921 to safeguard the plants and crops of the Territory against the introduction of pests and diseases. Measures for the prevention of plant diseases.

It should be noted that the permission of the Department of Agriculture is necessary before any living plant can be imported into the Territory, and when this is obtained the plants can only be imported through the ports of Dar es Salaam, Tanga, Lindi, Moshi and Mwanza. The same restriction applies to the seeds of coffee, cotton, tobacco, tea, Para rubber, coconut, cocoa and groundnuts (from India).

(b) AGRICULTURAL RESEARCH AT THE EAST AFRICAN
AGRICULTURAL RESEARCH STATION, AMANI

The Biological and Agricultural Institute at Amani in the Usambara Mountains was established in 1902. The admitted purpose of the creation of the Institute was the provision by Germany for her tropical possessions of an establishment which would serve these as well as the corresponding Institute at Pusa serves India and as the Buitenzorg Institute in Java has long served the Dutch East Indies. In all, the Germans are said to have spent over £1,000,000 on its establishment and development. The work of the Germans included the introduction and cultivation of foreign tropical plants or trees of economic value. The cultivated grounds were planted with a considerable variety of herbs, shrubs and trees, both exotic and indigenous. They included small plantings of a large number of the better-known tropical shrubs and trees such as coffee, tea, cocoa; plants of medicinal value, such as cinchona; rubber, fibres, spices, plants producing oil, tannin, dyes, gums and resins, as well as a variety of fruits, timber trees, ornamental shrubs, economic and ornamental palms. On the scientific side the work included investigations into plant breeding, the study of plant pests and diseases, methods of cultivation and manuring, the analysis of soils and the technical study of indigenous plants. A great deal of attention was given to the development of a rubber industry. In addition

to the research work lectures were given by the staff to local planters. The European staff was under the direction of a man of high administrative ability and wide reputation, and included two chemists, two botanists, a zoologist, an agriculturist and several gardeners. A periodical journal, *Der Pflanzer*, was issued.

In addition to the area under economic plants a great deal was done at Amani to commence the investigation of forestry problems. Different varieties of timber were planted experimentally, and the natural forest within the area of the Institute is of exceptional variety and interest.

The resources of the Institute were used by the Germans to the fullest extent during the first eighteen months of the war for the local manufacture of medical and other supplies no longer obtainable from abroad, and the Institute supplied 15,000 bottles of so-called 'whisky' and other alcoholic liquors, 10,000 pounds of chocolate and cocoa, 2,500 parcels of tooth powder, 10,000 pieces of soap, 300 bottles of castor oil, etc., for the use of the troops.

The Institute was taken over by the British forces in 1916, and the German staff was allowed to remain until after the Armistice, when its members were repatriated. Three remained until August, 1920.

An English director, Mr. A. Leechman, took charge of the Institute in January, 1920, and it was later absorbed into the organization of the Department of Agriculture. No further appointments were made to the scientific staff, and on Mr. Leechman's resignation in 1923 Amani was left in the sole custody of the head gardener until a scheme was drawn up whereby the Institute was re-established, under the name of the East African Agricultural Research Station, at the expense of the Governments of Tanganyika, Kenya, Uganda, Nyasaland, Northern Rhodesia and Zanzibar, contributing proportionately according to their means, and with the assistance of the Empire Marketing Board.

The director of the re-established Institute, Mr. W. Nowell, C.B.E., was appointed in 1926 and took charge of Amani early in 1927. The staff at present consists of an entomologist, plant pathologist, soil chemist, biochemist, plant geneticist, plant

physiologist and a botanist, in addition to the necessary clerical and administrative staff.

The Station can be reached by car from Tanga, which is fifty miles away, the road branching northward from Muhesa Station on the Tanga Railway and climbing, in all, 3,000 feet to Amani. The distance from Muhesa to Amani is twenty-four miles. The road has been greatly improved of late, particularly over the five-mile section between Sigi and Amani, where there is a succession of hairpin bends, and a thorough drainage system, involving the construction of more than sixty culverts, has been provided; but the road is still difficult in wet weather and all cars should carry chains.

There is a narrow-gauge railway running from the main Tanga line at Tengen to the boundary of the Research Station at Sigi, which provides a means of transport and of access available in all weathers and with the element of adventure associated with the journey by road largely removed.

The area of the Station is some 750 acres, of which about a third remains under the original forest, while a large part of the remainder is occupied by permanent plantations of trees and shrubs collected from all parts of the tropics, each having some sort of economic interest. There is scarcely any land suitable for arable cultivation, and the Station, when taken over, would be most accurately described as a well-stocked arboretum. To the land belonging to the Station itself, the Tanganyika Government in 1927 consented to add the large estate of Kwamkoro, in the neighbourhood of Amani, which had previously belonged to a member of the German Royal Family and subsequently devolved on the Government in accordance with the provisions of the Treaty of Peace. The area of this estate is some 8,000 acres, of which, approximately, 1,000 acres had been cleared from heavy forest and planted with *Arabica* coffee. Kwamkoro provides what Amani so completely lacks, namely, considerable areas of gentle slopes and a certain amount of level ground with fairly good soil, and capable of use for agricultural experiment.

The main buildings of the Research Station occupy the crown of a series of converging ridges at a height of 3,000 feet,

and the plantations extend down the slopes to the Sigi River at 1,300 feet and ascend a neighbouring summit to a height of 3,700 feet. The region is one of heavy rain forest of the usual mixed tropical type. The average annual rainfall over twenty-nine years is 77.03 inches, with recorded extremes of 53.8 and 97.8 inches. The mean relative humidity is 84.4 per cent; the annual mean temperature, 68.9 degrees Fahrenheit; the mean daily maximum, 76.3 degrees Fahrenheit, and the minimum, 61.5 degrees Fahrenheit.

It is physically impossible to have in East Africa an agricultural experiment station representative of more than a narrow range of the conditions existing from the coast to the interior highlands, and it will be necessary to arrange, in one way or another, for secondary stations as trial-grounds in connexion with Amani. The reopening of the Sigi Railway will make it possible to resume the occupation of an area of some eighty acres near Tengenji belonging to the Station. This is arable land, with a variety of characteristic soils, believed to possess an average degree of fertility. It represents an approach to lowland conditions, standing at an altitude of less than 500 feet, but is within the influence of the Usambara Mountains, and accordingly has a rainfall somewhat higher than is characteristic of the coastal plain generally.

The Amani Institute, as now reorganized, and the Imperial College of Tropical Agriculture in Trinidad, are the first of a proposed Empire chain of Research Stations, the establishment of which was approved in principle by the Imperial Conference, 1926, and subsequently endorsed by the Colonial Conference, 1927. The question of the functions of these Research Stations was one of the principal subjects of consideration at the Imperial Agricultural Research Conference held in London in 1927, and the conclusions reached were accepted by the Committee on the Colonial Agricultural Service appointed by the Secretary of State for the Colonies under the Chairmanship of the Lord Lovat, which reported in March, 1928. The Conference recommended that the stations should in the main confine themselves to 'long-range' and 'wide-range' research, i.e. that they should



CAMPHOR LOG READY FOR THE SAWMILL AT SHUME, LUSHOTO



ALPINE FLORA ON KILIMANJARO

concentrate on problems requiring more prolonged research work than can normally be expected from the technical staff of any single administrative department, and on problems arising in more than one territory of the Empire towards the solution of which the comparative method may be expected to make an effective contribution. The Conference emphasized the importance of preventing the establishment of a central research station from being allowed to impair or replace the scientific work properly undertaken by the Agricultural Department of any Government in its proximity. They conceived the work of such stations as a reinforcement of that of the Agricultural Department, and in no sense as a substitute for their work.

(c) FORESTS AND FORESTRY

Tanganyika's forests are, without doubt, nothing more than General. a remnant of those which existed in the past. The true forests form slightly more than one per cent only of the Territory's total land area, a dangerously low proportion for a tropical land relying, as it does, mainly upon agriculture for its prosperity. But the impression must not be conveyed that the country's forests are a negligible quantity for, on the contrary, they are of considerable extent and value, both as a source of timber and minor produce and for their important influence on climate, soil and stream-flow. Of the 4,020 square miles which represent the total of forest reserved or awaiting reservation and of privately owned forest, ninety-eight per cent is in the ownership and control of the Government, which also holds the power to direct the management of privately owned forest lands, of which there are seventy-seven square miles situated in the settled mountainous regions of Usambara and of Mufindi in the Iringa district.

The main close forest masses remaining to-day are to be found in the north-west, north and east of the Territory, with another group in the south-west on the mountains of the Iringa and Rungwe districts. But in addition to these close forests, vast areas in the lower parts of the country are covered with an open park-like forest type, commonly called

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tree savannah. In the aggregate, these open forests contain a great quantity of valuable timber scattered, in single trees and groups of trees, over wide areas and they play a very important part in the economic life of the native and non-native population alike.

The four and a half million Africans and a large number of the immigrant population of the Territory are dependent upon the forests for such essentials of existence as fuel and house-building material. The railways, the country's arteries of trade, are for the most part run on wood fuel, of which seven millions of stacked cubic feet are consumed every year. The forests are of many widely divergent types and could yield timbers adequate in quantity and quality to supply all the internal demand and even to leave a balance for export overseas to the nearer markets of South Africa and Egypt. But the importance and value of its forest lands to the economy of the Territory are due not nearly so much to their intrinsic worth as wealth producers as to the indirect benefits which they confer in the prevention of soil erosion and the desiccation of agricultural lands, and in maintaining the flow of water in rivers that emerge from the wooded mountain ranges and flow for miles through the hot plains, rendering possible therein the existence of man and beast. For these reasons, then, the forests claim attention and demand that care and energy be expended in conserving the areas that exist and in developing and increasing them to the utmost.

History of
forest pro-
tection.

There is still abundant evidence that not much more than two centuries ago forests covered the mountains and parts of the coastal zone to a much greater extent than at present. Watercourses, carved deeply into the foothills and plains, can be traced in the vicinity of many of the mountain ranges, but these courses are now dry for the greater part of the year and even in the rainy seasons do not carry the volume of water that would have been necessary to produce the erosion evidenced by their depth. It is obvious that the forest covering once extended far down the mountain sides and out on to the plains. Remnants of rain forest in small groups or single stems are found among low secondary bush and cultivated land in the mountains between surviving blocks of that forest

type. Encroachment on the forests by the native tribes for their shifting cultivation was rapidly depleting the mountain tops of their invaluable tree cover, and fires kindled by the nomad herdsmen of the plains were yearly rolling back the forest off the mountain sides when the Germans first established themselves in this part of Africa. The German, who is a past master of forestry in his home country, at once realized the danger and proceeded forthwith, as was to be expected, to stem the tide of destruction. About the year 1899 forest demarcation and reservation were instituted and were closely followed by the introduction of protective measures. Subsequent investigation has proved that some of the early reservations were made with more energy than discrimination, for, on closer examination, certain large forest reserves created by the Germans proved to contain nothing of value and to be so situated that even the indirect effects of dense cover were negative. But the error was on the right side, as it is better to reserve too much and subsequently to release it from reserve conditions than to reserve too little and, later, be powerless to alter the tenure of the land and to prevent valuable forests from destruction. Examples of the latter state of affairs are indeed extant in the dense and beautiful rain forests, rich in species and of great botanical interest, situated in the mountains of east Usambara, which were apparently overlooked by the early forest authority and were allowed, for some reason or other, to pass into private ownership for coffee plantation and agriculture. It is doubtful if even the now existing legislation for the protection of private forests can save these fine stands from the axe and the surrounding country from calamitous deterioration.

Again, in the German military district of Iringa, reservations and demarcation took place in a very haphazard manner, and though parts of a great and potentially valuable forest belt were protected, the major portions were left to the tender mercies of the Hehe tribe, which, by lazy and shifting cultivation, practically ruined the forest and, with it, the agricultural amenities of much of the country involved.

With these exceptions, however, forest protection was well established at the outbreak of war in German East Africa in

1914. But about 1916 the forest authority collapsed and the staff of the forest service, both white and black, was pressed into military service and for five years forest protection practically ceased to exist. The native was not slow in taking advantage of this interregnum and rapidly encroached into forest reserves, establishing villages and fields in their midst. The British military and civil administrations were, at first, too fully occupied with the establishment of administrative control in its barest essentials to be able to take up the question of forest protection, even had staff with the necessary training and knowledge been available.

Establishment of Forest Department in 1920.

But late in 1920 an independent department of forestry was instituted and became active early in 1921, though the staff had necessarily to be commensurate with the financial position of a country crippled temporarily by years of an exhausting campaign. The sanctity of forest reserves first received attention and forest legislation was enacted, which included the proclamation of all former German reserves as a temporary expedient, pending close examination of the areas with a view to deciding finally as to their retention or rejection. A progressive forest policy was pronounced and adopted, and the present Administration of the Territory has, ever since, implemented this policy to the best of its ability and resources.

The Forest Department as now constituted includes twenty Europeans and over one hundred and seventy Africans, besides the necessary clerical staff; and its activities are gradually extending over the whole Territory, though it will be some years yet before forest officers exert direct control over forestry affairs in the southern parts. There are five territorial divisions: those of Bukoba-Mwanza, Moshi-Arusha, Usambara (including the administrative districts of Usambara, Tanga and Pangani), Dar es Salaam (including the administrative districts adjacent to the Central Railway and the coastal districts lying north of the Portuguese border) and Iringa (including the province of that name). Each division is in charge of a highly trained officer and is generally subdivided into lesser charges under foresters.

Types of forest.

Tanganyika offers such a diversity of conditions, climatic and edaphic, that the types of forest to be found in it can be

expected also to be both numerous and divergent. Altitude and rainfall are the factors mainly responsible for forest types, which extend from the tropical rain forest of the higher mountain ranges through temperate rain forest in a series of sub-types, the wet and dry tree savannahs of the medium altitude plains and the coast zone bush forest, to that curious semi-aquatic association, the mangrove swamp forest of the tidal creeks and deltas up and down the coast. A very distinct type of forest, too, is well represented by the freshwater swamp and lake basin forests of the Bukoba district just west of Lake Nyanza.

One of the main features in the vegetation of East and South Africa is the dry tree savannah. In this Territory a type of this savannah, the *Brachystegia-Pterocarpus* ("Miombo") forest, covers the greater part of the north-western and south-eastern districts, yielding place to other plant associations only with increasing altitude. These forests are scattered and support large native populations, with the result that only very small portions of them are included in forest reserves. The major part of them is, therefore, apt to be overlooked in a consideration of the Territory's forest resources, which generally is taken as that of its proclaimed forest areas. These total some 4,020 square miles and can be divided by types as follows:

Rain forest	27 per cent.
Temperate rain forest	22 "
Savannah	21 "
High and low bush forest	19 "
Mangrove	4 "
Lake basin forest	4 "
Grass, alpine, moorland and rock	3 "

The rain forest proper is confined to the mountain masses of Kilimanjaro, Meru, Usambara, Uluguru, Pare and Nguru, all in the north-east, but the mountains of Iringa and Rungwe in the south-west also have many remnants of the type. It is a wet dense mass of evergreen vegetation penetrable only with difficulty off the track. Great stems tower up through the tangled undergrowth and support an upper canopy inextricably interwoven by scandent lianas, shutting out the

air and heat and light of the tropical sun. Underfoot is a thick carpet of rotting vegetation studded with fungoid growths which absorbs and holds the rainfall like a sponge and, after saturation, slowly yields it up to feed the streams issuing from the mountains and maintains their head of water well into the long drought seasons. There is not much of this forest left compared with the large tracts which once existed. Its deep and wonderfully fertile soil has been coveted by man, who for generations has been felling and burning the trees for his primitive forms of agriculture. Among a great variety of timber trees peculiar to the rain forest but few, it must be admitted, are familiar as yet except as botanical names, and their distribution and the qualities of their products remain to be ascertained. Commercially, at present, the most important tree species are the Camphor (*Ocotea Usambarensis*), Mkuka (*Royena* sp.), the giant Mrie (*Lovoa* sp.) and Mshambo (*Allanblackia Stuhlmannii*). The last-named tree, besides giving a beautiful blood-red timber, has a brown fruit like a small rugby football, from which the Germans at the Amani Institute prepared masses of a colourless, odourless cooking fat which was distributed to their people and fighting forces during the lean times of the war. The Camphor, Mkuka and Mrie cut up into beautiful hardwoods and are locally in common use and demand.

To draw the dividing line between the last main forest type and the temperate rain forest, and again between its sub-types, would be a matter of great difficulty, so imperceptibly do they all merge into each other. Higher altitude and less heavy rainfall are mainly the controlling factors in the production of the temperate rain forest. The typical form is generally more pleasing to the professional eye than that of the tropical rain forest, and conforms more closely to the average man's ideas of a forest as found in Europe and in the extra-tropical zones. There is a less abundant ground vegetation and the individual crowns of the main forest trees are more sharply defined. Lianas are present but not conspicuous. Progress in an upright position through the forest is generally possible with but small exertion and discomfort. The stand of timber is generally a good one, even for a *primaeval* forest,

and often in pure Yellow-wood forest there is a fine array of straight and tall cylindrical boles, almost unbranching for fifty feet and more, while the forest floor is open and cleanly carpeted with leaf-mould.

This type, as a whole, has more economic species than any other and is in consequence the most valuable, important and manageable. The following trees are typical: Yellow-woods (*Podocarpus gracilior*, *P. Milanjanus* and *P. Usambarensis*), generally tall, full-boled timber trees with beautiful feathering crowns; Pillar woods (*Cassipourea* spp.) and olives, such as *Olea Hochstetteri*, *O. chrysophylla* and *Linoceira Welwitschii*, all yielding heavy, hard timbers handsomely grained in yellows, browns and black. The genera *Pygeum*, *Tecles*, *Rapanea*, *Rawsonia* and *Ekebergia* are almost invariably associated.

A particular sub-type of the temperate rain forest is represented by the cedar forest. This cedar is, in fact, a juniper (*J. procera*) growing to a great size in its optimum habitat in the neighbouring Colony of Kenya. Tanganyika Territory is unfortunately somewhat too far south of the optimum. The cedar forest proper is unique, being rather dry and light in canopy. The picturesquely ragged cedars are generally associated with several other kinds of trees, among which the Brown Olive (*O. chrysophylla*) and *Podocarpus Milanjanus* and the beautiful Cape Chestnut (*Calodendron Capense*) are prominent. The undergrowth is often formed by the hard, straggling Assegaiwood, which, sprawling in all directions, impedes rapid progress.

Though appearing generally at an altitude of 6,000 feet the cedar forest reaches, in a stunted form, often up to the limit of timber forest growth on certain mountains of this country and there becomes intermixed with St. John's worts, Giant Heaths and *Crotolarias* in a riot of wild flowers, and the fairy tree (*Hagenia abyssinica*) with its great soft clusters of salmon pink and roseate blossoms. Bushbuck and the rock hyrax abound, while an occasional rhinoceros enhances the interest, if not the beauty, of the landscape. The cedar forest is more often now associated with the olives and *Podocarpus gracilior* and, at the time of the olive berry crop, becomes the

temporary home of millions of the great purple forest pigeon (*Columba arquatrix arquatrix*). These birds fighting on a windy day will provide sport not to be excelled on any Scottish grouse moor.

The cedar is potentially a very valuable tree to this Territory, and in Kenya has long been considered as such. The wood is soft, of a handsome brown, easily workable and extremely durable, with a pleasant cedar oil smell. For some years past there has been promise of the East African cedar becoming the first substitute for the true Pencil Cedar (*Juniperus Virginiana*) of America. The pencil slat industry was started about 1908 in Tanganyika when a German firm opened a large slat sawing plant in conjunction with their general sawmill in the cedar forest of the Shume plateau in the western Usambaras. The ultimate fate of this promising industry depends still upon the results of research into commercially applicable methods of softening and seasoning the wood, to which the only real drawback is a hardness slightly greater than that of the real wood.

Close observation reveals the probability that cedar forest was once more extensive in Tanganyika than it is now. Rotten veterans and fallen logs, probably some centuries old, are found standing in and lying, half burned, on the floor of mixed broadleaf and Podocarpus forest, the more shade-bearing and hardier individuals of which have doubtless ousted the essentially light-loving cedar and gradually pushed it out into the drier localities, in which it is able successfully to compete with its oppressors but is unable to form first-class forest. It is one of the aims of the Forest Department to reinstate the cedar on its ancient sites and, with this object, the species is extensively raised and cultivated in felling coupes of the mixed broadleaf types as they fall to the axe and are cleared ready for reafforestation.

Other sub-types of temperate rain forest are found, such as the Pillar-wood belt on the north slopes of Kilimanjaro and the Croton-Makaranga, associated on the south-western side of this mountain. The differences are marked by the predominance of certain species, the general characteristics of the forest sub-types being the same.

A large variety of types pass as savannah, such as small tree-bush, acacia savannah, etc., but only one main type merits consideration by the forester, namely, the Miombo forest. Miombo is a native term covering several species of *Brachystegia* trees which characterize this type. Associated with the Miombo are two species of *Pterocarpus*, *P. Bussei*, known to the natives as the Mninga, and *P. Chrysothrix*, for which Mkurungu is the native name. These *Pterocarps* are typical and of greater value than any other component. The forest type has, therefore, come to be known to the Forest Department as *Brachystegia-Pterocarpus* forest, or simply as Miombo, an easier name which recommends itself rather than the other. The trees of the Miombo forest seldom exceed fifty feet, the average being about forty feet. They are widely spaced, with about twenty or thirty mature stems on the acre, and the crowns, which are mostly very light, hardly touch. The boles of the trees are short, seldom exceeding thirty feet and average about eighteen feet. The ground is carpeted with a growth of grass, which in the rains is tall and vivid green, and in the drought after fire a sombre pall of black. Young regeneration of all the Miombo components is numerous, and the forest really is an almost perfect example of the selection system, maintained for ages by nature. Miombo savannah is essentially pyrophytic in character. The seedlings are cut off annually for several years by the regular grass fires which sweep through them. The stem perishes, but the root system, persisting beneath the soil, gradually strengthens until, with the first wetting of the rains, it can send up a vigorous shoot that grows away from the surrounding grass and survives the fire. Some portions of the forest escape the fire in each year or are but slightly scorched by flames dying in the evening dew. It is in such places essentially that the vigorous shoot can eventually succeed in establishing itself. This type of forest contains much game, and in it are to be found the sable and roan antelope, giraffe and eland, hartebeeste and wildebeeste, with lions generally in attendance. The economic trees of the Miombo are the two *Pterocarps* aforementioned, several *Brachystegias* and Mkora (*Afzelia cuanzensis*), while bastard

Ebony (*Dalbergia melanoxylon*) is occasionally found in a sub-type of the Miombo.

For years there has been a heavy drain upon all the more accessible parts of the Miombo forest within twenty or thirty miles of the Central Railway. Mninga timber is much in demand, being a handsome yellowish brown hardwood, easily worked and polished, durable and well suited for most construction work, joinery and furniture, and the Railway and Public Works Department shops have consumed great quantities of the wood. Exploitation has been hitherto entirely by pit-sawing in the forest by native woodmen employed by Greeks and Indians. The waste in conversion has been excessive and, altogether, control has been so ineffective that irreparable damage has resulted to these valuable sources of timber, while many thousands of pounds in legitimate revenue have been missed by Government.

Large numbers of natives of the Nyamwezi and Sukuma tribes live in scattered villages throughout the Miombo and have an intimate knowledge and appreciation of its trees, though they are most prodigal and wasteful in their use. The forest produces fences, fuel, hut-building material, honey barrels, grain mortars and bins, stools and a variety of other domestic requirements for its inhabitants. The tsetse fly is generally plentiful in the Miombo, and sleeping sickness is present in parts.

The mangrove swamp forest is well represented on the coasts of the Territory, the largest continuous mangrove areas being found on the littoral of the Tanga district in the north, in the delta of the Rufiji River, in Kilwa district and in Lindi where the Rovuma River forms an estuary close to the Portuguese border. In character, the mangrove is a dense mass of evergreen trees growing as its optimum habitat in the soft, blackish, slimy mud carried down and deposited by rivers, or simply on the sheltered parts of creek shores, where, however, it does not flourish. There are seven species of trees in varying associations forming the mangrove forest on these coasts, being in order of importance as follows: Mkaka (*Rhizophora mucronata*), Mshinzi (*Bruguiera gymnorhiza*), Mkandaa (*Ceriops candoliana*), Mkomavi (*Xylocarpus obo-*

vatus), Msikundazi (*Heritiera littoralis*), Mlilana (*Sonneratia asseolaris*) and Mohu (*Avicennia officinalis*). Most of these species present most striking and interesting xerophyllus adaptations in the nature of aerial breathing roots, prop roots and thick fleshy leaves. The three most important species are in a manner viviparous, producing a wonderful adaptation for propagation in the soft mud which is inundated twice daily by the tide for part or all of the month. The seed is attached to a long dart-like growth that depends from the branches of the tree. It germinates while still hanging to the parent tree, and eventually drops off when ready, the heavy, sharp dart entering the soft mud in a vertical position and at once taking root.

The mangrove forest is dreary to the eye and most unpleasant to traverse or work in. Small black stegomeia mosquitoes are myriad at certain times of the year, while the sticky mud into which one sinks over the ankle, if not over the knee, is riddled with the holes of a peculiar one-clawed crab. The only other denizens of these marches of monotony are shell-fish, Syke's monkeys, pigs and bushbuck, though the latter are but seldom seen.

Artificial regeneration of the mangrove stands, which is carried out extensively by the Department, represents several most interesting silvicultural problems. The mangrove forest has for many years been of considerable importance in the trade of this Territory, and Arabs from Muscat and the Persian Gulf have long been in the habit of sailing with the north-west monsoon to this coast, and particularly to the delta of the Rufiji where the finest mangroves are, carrying cargoes of dates, rice and carpets for sale in Zanzibar and the mainland towns. They then load up with a cargo of mangrove poles, called "boriti", and return with the south-west winds in June and July. These poles are much sought after for roofing Arab buildings and fetch good prices in Arabia. They are generally about fifteen feet long and over, and from three to five inches in diameter at the base. The Mkaka, Mshinzi and Mkandaa furnish the straightest poles and are accordingly the most in demand.

This "boriti" trade still survives, but of late years the

mangroves have been extensively worked for tanning barks as well, of which the Mkaka in advanced age yields a valuable kind. The exports of bark alone have rapidly risen from seven and a half to over eight thousand tons a year in the last few years, and four concessionaires are busily exploiting the mangroves of this coast.

The Lake swamp forests are dense evergreen forests situated in the Bukoba district west of Lake Nyanza, varying in type from swamp forests of *Eugenia* spp. and *Raffia* palm to a high close timber forest of Yellow-wood, *Baikiea* and *Mimusops*, according to the degree of moisture in the soil. The wettest extreme yields raffia fibre and fuel and is not of great significance, but the driest or Yellow-wood forest type is a valuable asset to the Territory, situated, as it is, in close proximity to the Lake on a navigable river, the Kagera, and accessible to lake steamers of the Kenya-Uganda Marine. The north-western parts of the Territory are poorly timbered, and for this reason also the Minziro lake forests are of importance. The topography of the forest country is flat, the soil a dense grey clay, which holds up the moisture in the rains and becomes, in part, inundated for some months of the year. Important trees of the lake forests are *Podocarpus gracilior*, *Baikiea Emini* and *Chrysophylla Holstii*, though there are many other species composing the stand, among which *Maesopsis berchymoides* deserves mention.

The forest of Minziro is a continuous mass divided by the Uganda-Tanganyika boundary into two portions. The Uganda Government has for several years developed the forest in its territory and installed modern saw-milling plant which is connected with forest and lake port by light railway tracks. Concessions have been offered over the whole forest by both Governments to the successful tenderer for the purchase of the plant, and they should be a valuable commercial undertaking.

The coastal or low dense forest type is a dense, low and close forest containing nothing very much of timber value excepting the Mkongo (*Azelia cuanzensis*), but in many places it forms the covering of hills and aids the conservation of water in dry localities. Where these forests occur in proximity to

markets and a dense population, *e.g.* the Mogo, Pugu and Kiserawe Reserves on the Central Railway near Dar es Salaam, they are of value as a source of wood-fuel and can be developed systematically by clear felling and restocking artificially with Iron-wood (*Cassia Siamea*), Eucalypts and other species, but owing to the unfavourable climatic and edaphic factors of the country covered by these coast forests, their artificial regeneration is no easy matter. Other trees of economic importance are the gum copal tree (*Trachylobium verrucosum*) and the wild guava (*Combretum Schumannii*). The former yields the valuable gum copal of commerce, both fossil from ancient trees long dead, and fresh by tapping the branches and the bole. The latter has a hard purple timber which works up to a beautiful polish. In 1929 some fifty-four tons of gum copal valued at £19,000 were collected by natives and exported.

The last type of local forest is the riparian belt that so frequently borders both flowing and dry watercourses in the plains at altitudes of some 1,000 to 3,000 feet. The belts sometimes open out where tributaries enter the main stream or where two or more streams flow in proximity to each other. A good example of a large riparian forest is the Rau near the township of Moshi. Riparian or gallery forest contains some very valuable timber trees, such as Mvule (*Chlorophora excelsa*), Mkangazi (*Khaya Senegalensis*), Msaur (a *Lovoa* sp.) and Mroma (*Cordyla africana*). The Lukigura River and its tributary, the Msiri, have their courses marked for several miles through dry savannah forest by a dense riparian belt, part of which contains over one and a quarter million cubic feet of Mahogany (*Khaya Senegalensis*) in trees over three feet in diameter alone. This is a reserve of high-class timber that will be of great local value when road or railway communications in the neighbourhood have been improved. Unfortunately the Lukigura is dry for the major part of the year, as, otherwise, floating out the mahogany logs would have been a most profitable undertaking, and it would well repay investigation to explore the possibility of floating this timber in the long rains, if the river bed were improved by cleaning its banks and connecting up the numerous hairpin loops by channels.

Hitherto the most generally valuable tree of Tanganyika Territory has been the magnificent Mvule (*Chlorophora excelsa*). Doors, windows and almost all the furniture manufactured locally in the German times were made of this wood. The Mvule is a very large tree, attaining in deep soils at the proper altitude a height of one hundred and fifty feet and girths of eighteen to twenty-four feet. The trunk is cylindrical and quite commonly branchless for fifty feet, its bark being an iron grey. The trunk supports a superb umbrella like a crown of large dark leaves. Mvule is found as a component of a type of temperate rain forest in dense stands of mixed trees, but more often it grows isolated in cultivated land or in groups of five to ten. Unfortunately the supply of this fine timber is becoming scarce, as the accessible parts where it was formerly common have long since been cleared out, and though a considerable quantity of good Mvule timber is still in existence, the purchaser must search for it far afield.

Plantations.

The German forest department had planted up small areas with eucalypts, teak and wattles, besides cedar and numerous other species, but only on a small experimental scale. With the recovery of the tanning bark market the wattle plantations have recently roused interest and have been felled for bark stripping. The cedar plantations, which are about twenty-three years old and have been raised pure and in mixture at various spacings, now provide most useful material for recording the increment in volume and height growth of the cedar tree in close plantation. Several plantations have been marked out for periodic measurement, with the object, ultimately, of compiling a yield table for this valuable species, which is being used in reforestation both here and in Kenya to such a large extent.

Work of the Forest Department.

The question has often been asked: "What does a forest officer do?" The inquiry cannot be wondered at, for generally the forest officer works quietly and remote from the public gaze and any results he may achieve are never spectacular.

The duties of a forest officer in Tanganyika, and for that matter in any new and tropical country, consist of acquainting himself intimately with the whereabouts, size and contents of the forests in his charge by means of exploration and

timber cruising, by enumeration surveys, etc. Having located the forests and examined them, he must arrange for demarcation and reservation of the areas, and, thereafter, protect them from fire and encroachment, developing them by introducing systematic exploitation and regeneration of felled areas in a manner that will result in replacement of something more valuable than that which has been removed. Besides this, the forest officer is responsible for issuing licences and collecting forest revenue, and must use his discretion in making free issues of forest produce to Departments of Government and the native inhabitants. There is much more in this broad statement of forest activities than may first be apparent. For instance, systematic exploitation involves decisions as to area and species to be cut out, marking of trees for felling, measuring the timber for royalty assessment, while regeneration means, firstly, a correct choice of species for propagation, collection of the seed, raising the nursery stock, tending it against drought, fungoid and insect pests, lining out the seedlings to transplant beds and, ultimately, the conveyance of the plants to the plantation sites and planting them there after staking, pitting and frequently fencing against the larger animal pests. Every forest officer receives annually allocations of money to carry out the various works in his charge, and is thus responsible for a part of the public expenditure. This and revenue collection involve careful accounting in addition to his multifarious duties.

The life of a forest officer in Tanganyika is a pleasant one on the whole; at least it is so viewed by the young man whose tastes incline to nature and out-door life. The sedentary life is not for him, for, though he is no stranger to the system of accounts, he has the ever present duty of forsaking his office for forest and plain to spend days and weeks in some of the wild places of the earth that still are part of Africa. The forest man has generally a healthy station and a fair house, and his work takes him much among the splendid fauna and flora of the country. He has, too, the pleasing knowledge that he is a producer of the first importance, and one who produces for the public and for posterity.

Silviculture in the Territory is confined to the restocking Silviculture.

of areas felled by lumbermen, of blanks in the forests caused by native encroachment or by fire, and the removal of poor quality forests and replanting of the land. The last operation is done by the agency of native forest cultivators whose love for shifting cultivation is thus utilized. The cultivator is given an area of forest which he fells and burns, planting his food crops in the rich soil. After a time, these fields are planted up by the Forest Department and the native cultivator moves on a little further into the forest, preparing fresh ground. He can, of course, sow food crops among the lines of planted trees for two or three years until the trees have begun to form a canopy. The restocking of felling areas extends also to bush forests cut for wood-fuel and to mangrove swamps; but in these latter it is not so much a case of restocking where trees have been felled as of hastening the process of nature in stocking, with the more valuable mangrove species, new formed land in the delta which has been taken possession of by the pioneer but useless mangrove *Avicennia officinalis*.

The trees more generally used in reafforestation are Cedar, *Pygeum africanum* and Mvule among indigenous species, and Iron-woods (*Cassia Siamea*), Monterey Cypress and the Lemon-scented Gum (*Eucalyptus citriodora*) among exotics.

Fire protection is afforded to as many areas as is possible with the funds and labour that are at the disposal of the Department. Particular attention is paid to the forest belts that encircle the two mountains of Meru and Kilimanjaro. Wide fire belts are cut and burnt off annually for miles along the lower edges of these forests, which are much endangered by grass and bush fires originating in the grazing grounds of nomadic tribes and on European farm lands adjacent on their west and northern sides. Recently, attempts have been made to make these fire traces permanent by planting them closely with sisal and castor-oil bush, which are fire-resistant plants intended to kill out the rank grass which becomes so inflammable when dry.

Financial. The financial position of forestry is slowly improving, though it is improbable that forests will ever contribute an appreciable percentage to the Territory's total revenue, a

matter of no importance, however, because, as stated above, the value of the forests lies more in the indirect benefits which they confer than in their revenue-producing capacity. But the relation between revenue and expenditure is becoming more satisfactory, as the following figures will show:

	1921-22.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
Revenue.	£5,167	£3,204	£4,774	£8,178	£8,942	£11,116	£20,949	£18,176
Expenditure	12,584	12,198	12,872	14,005	15,862	17,417	19,398	21,361

On adding the royalty value of the full amount of gratis issues made from the country's forests, these figures take on a very different form. Expenditure in 1926-27 was 60 per cent only of this true revenue, while in 1927-28 and 1928-29 the percentages were 61·66 and 69·55 respectively.

Though there is no occasion yet to lament the fact that the forest revenue is low, it could be very much greater without overdrawing on forest capital. This statement can be made with practical certainty, though it has not yet been possible to ascertain very accurately the annual increment of the Territory's forests. Inaccessibility of forests and lack of investigation into qualities and seasoning of local timbers are still the chief impediments to the lumbering and sawmilling industries. Imported deals and Burma teak are competing successfully with home-grown woods, partly owing to prejudice against these and partly to bad methods of local production, i.e. careless sawing and lack of seasoning. High rail freights and extraction costs of timber also tend to keep up the prices of the local product.

The timber trade is still, more or less, in its infancy, but some pioneering firms are at work and are employing modern methods of extraction, conversion and transportation. Power skidding of logs by American devices and aerial ropeway transport are employed by one large sawmilling company, which is also arranging to season its output in large kilns embodying most up-to-date principles.

Five sawmills are now at work in the forests, besides the

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extensive pit-sawing in Miombo forest already referred to, and five concessions are being operated with a satisfactory output in the mangrove woods.

(d) LAND AND LAND SETTLEMENT

German
system of
land tenure.

Soon after their occupation of the country the German Government introduced, for application to non-natives, a system of land law based in the main on the general Prussian law on the subject. This system appears to have been modified from time to time by local Ordinances that were consolidated by an Ordinance of 1902, which was in force at the outbreak of war. Subject to the rights of private persons or of chiefs or native communities, all unowned land was declared to be Crown land, and the ownership of it was declared to be vested in the Empire. Such Crown land could be granted by the Governor either by way of transfer of ownership or by lease, but before any such grant could be made it was necessary to ascertain that the land was, in fact, free from claims of third parties and unoccupied, and for this purpose a system of Land Commissions was established, whose duty it was to inquire on the spot whether any particular piece of land which had been applied for was free to be disposed of by the Government.

The tenure under German titles was either leasehold tenure or restricted ownership, as it was called, a tenure closely akin to freehold. These leases were for an indefinite period, but while the lessee could terminate the agreement by giving three months' notice, the Government could not give notice of termination until the expiry of twenty-five years from the commencement of the lease. A lessee under a German agricultural lease usually had the option of purchasing the freehold of his farm on fulfilment of the development conditions specified in his lease. These conditions required one-quarter of the land to be brought under cultivation or other permanent use, other improvements, such as buildings, factories, etc., being allowed to count as cultivation up to a specified value.

Restrictions on the title consisted, in the great number of

cases, in an obligation on the owner to surrender to the Government at cost price any part of his holding which might be required for public purposes, *e.g.* the construction of railways and roads, and the owner was also under an obligation to keep open and maintain roads running through his land.

In addition to these two systems of tenure a third was recognized, namely, the acquisition of title by prescription. This applied in the coastal belt where, through contact with Arabs and Indians and ideas of western civilization, natives had advanced to a recognition of individual ownership as opposed to the communal tenure which prevails amongst most African tribes.

After the war, until the enactment of the Land Ordinance in 1923, the only alienation of land to non-natives which took place consisted in the grant of yearly licences of land for the growing of annual crops, generally cotton, the price of which for part of this period ruled high, and the first thing which had to be done by the Government in the way of land administration was to discover precisely what land had been alienated during German times and what titles to land must be recognized. For this purpose an officer was appointed in 1920 to exercise jointly the duties of Land Officer, Director of Surveys and Controller of Mines, additional staff being appointed from time to time as personnel became available. The three main divisions of the Department continued under one control until 1926, when it was decided, with a view to greater efficiency, to split up the Department into three separate entities, namely, the Land Department, the Survey Department and the Mines Department. Immediately after the establishment of the Department, a start was made on the heavy task of unravelling the intricate tangle of such German records as could be found. These had been scattered and, in most cases, concealed all over the Territory, and, generally, were in a chaotic condition. In some cases the records retrieved from hiding-places in which they had been buried proved to be illegible, and in other cases they were never found, owing to inaccurate description of their location or to their removal before the British authorities were

Establishment of a Land and Survey Office.

in a position to search for them. A large mass of material was, however, available, and a great expenditure of time and energy was necessitated in indexing, collating and reducing this mass to some semblance of order. The difficulties were increased by the fact that the records were in a foreign language, and that the German system of land alienation, registration and law differed from the British.

Present
system of
land tenure
in Tangan-
yika.

In 1923 the Land Ordinance (Chapter 68 of the Laws) was enacted, which with its subsequent amendments regulates the alienation, title and tenure of land. The fundamental principle underlying the Ordinance is the recognition of the rights of the natives to the usufruct of the land in sufficient quantity to enable them to provide not only for the sustenance of themselves, but of their posterity. The Ordinance declares the whole of the lands of the Territory to be "public lands" under the control and subject to the disposition of the Governor, to be held and administered for the use and common benefit, direct or indirect, of the natives of the Territory. The Ordinance recognizes the validity of any title or interest to land lawfully acquired before the date of its enactment, but except where it is necessary to give effect to any undertaking made by the German Government, or in substitution of any grant made by that Government and surrendered in exchange for a new grant, freehold is not granted, and the only method of acquiring land is by way of lease, or, as it is called in the Ordinance, a Right of Occupancy. These Rights of Occupancy, or leases, may be given for any definite period not exceeding ninety-nine years, but the area of a single Right of Occupancy may not exceed five thousand acres, except with the approval of the Secretary of State for the Colonies.

At present, the practice is to grant Rights of Occupancy in respect of agricultural land for a term of thirty-three years when the land is to be used for the growing of cotton or other annual crops, and for a term of ninety-nine years in the case of general agriculture. As regards township plots, the term is determined by the building conditions that have to be fulfilled, being, generally, for thirty-three years where the value of the buildings which have to be erected is less than £500, and for fifty years where such value exceeds £500

but is less than £1,000, and for ninety-nine years where the value is £1,000 or over.

The rent to be charged in the first instance for a Right of Occupancy granted to a non-native in respect of any public land has, with the few exceptions mentioned below, to be determined by the offer of the highest bidder at public auction, subject to such offer being not less than a reserve or upset rent which is fixed by the Governor. This upset rent varies for different localities, the minimum being fifty cents and ten cents per acre per annum for agricultural and pastoral land respectively. A Right of Occupancy of a site for any church, chapel, mosque, school, ginnery or cotton buying post, for the Imperial Airways for carrying out a contract with His Majesty's Government, or for any public purpose, may, however, be granted without an auction.

Under the Ordinance the initial rent payable under a Right of Occupancy granted to an occupier is revisable at intervals of not more than thirty-three years. The present practice is to provide for a revision at intervals of twenty years, with special stipulations (following the German practice) for earlier revision in the event of the opening of a railway within a certain distance of the land. On a revision of rental no account can be taken of any value due to capital expenditure upon the land by the same or any previous occupier, or of any increase in the value of the land due to the employment of such capital, but the occupier is entitled to surrender his rights, on revision of rent, if he considers that the revised rent is too high. In that case he is entitled to compensation to the value, at the date of surrender, of the unexhausted improvements.

Under the Land Regulations, 1926, every occupier of agricultural land has to effect and maintain on the land improvements of the nature and to the value specified, within certain periods. These may be summarized as follows: For areas of 300 acres or under, permanent improvements to the value of Shs.20 per acre have to be effected within the first three years, and additional permanent improvements of half that value within the first five years. For areas over 300 acres,

improvements to the value of Shs.6,000, plus Shs.4 per acre in respect of every acre over 300 acres, have to be effected within the first three years, and additional improvements of half that value within the first five years. These Regulations also provide that an occupier or his approved agent must at all times occupy the land. Under the Land (Pastoral Purposes) Regulations, 1927, every occupier of pastoral land has within five years to effect or place on the land, and thereafter maintain, improvements to the value of five shillings per acre, of which value at least fifty per cent must be in livestock, the property of the occupier.

To summarize: there are, in the main, three distinct classes of title to land in the Territory:

- (a) titles derived from the German Government which are either leasehold or freehold;
- (b) Rights of Occupancy, or leases, granted under the Land Ordinance for varying periods up to a maximum of ninety-nine years;
- (c) titles acquired by prescriptive possession, the ownership of which is usually held by Arabs and natives in the coastal belt.

**Native land
tenure.**

As has been stated above, individual ownership of land by natives is, generally speaking, restricted to the coast, but elsewhere the conception of individual tenure will be promoted by the cultivation of permanent crops, such as coffee, for example, which take long to mature. The inevitable tendency to individual tenure must, sooner or later, assert itself, and is the best inducement towards production and food husbandry, but for the present the majority of native land is held in communal tenure, that is, the assignment of land is entrusted to the individual by tribal or family authorities, and while that individual may enjoy the usufruct of his portion in perpetuity, subject to the fulfilment of tribal obligations, he may not alienate it. But natives and native communities enjoy, under the Land Ordinance, a title not inferior to that possessed by non-natives, as a Right of Occupancy has been defined to include the titles of natives or tribal communities lawfully using or occupying land in accordance with native

law and custom, although for physical reasons it is impossible to issue an actual document to each of the four and a half million natives of Tanganyika. There is provision in the Land Ordinance whereby a Right of Occupancy may be granted to a native, with or without payment of rent, at the discretion of the Governor, but, so far, no native has applied for a Right of Occupancy in respect of the agricultural or pastoral land which he occupies: in such cases no rent would be charged. Cases have occurred, however, in which natives occupying small parcels of land in the vicinity of townships have applied for permission to rent a house thereon to a non-native for trading purposes, and in those cases the native has been required to take out a Right of Occupancy and to pay rent.

There are two systems of registration in force in the Territory: Registration of land titles.

(a) In 1923 the Land Registry Ordinance (Chapter 70 of the Laws) was enacted. This Ordinance is an adaptation of the Torrens system of land registration, its aim being to quieten title and so render dealings with registered land more simple and economical. All leases of public land for a term of more than five years and mining leases made after the enactment of the Ordinance have to be registered under the Ordinance. Provision is also made for the recognition of former titles, and the land held under these may be registered under the Ordinance on the application of the owner.

(b) The other system is under the Registration of Documents Ordinance (Chapter 69 of the Laws), and under it registration is compulsory and essential to the passing of the legal title to land or any interest therein, but does not cure any defect in any document or confer upon it any effect or validity which it would not otherwise have had. Its purpose is mainly one of record.

In German times all agreements for the transfer of the Land ownership of land, or of leasehold interests where the lease transfers. exceeded fifteen years, were originally subject to the sanction of the Governor, a restriction which did not long survive, and an Ordinance of 1895 dispensed with this sanction in the case of land owned by a non-native, though the transfer of lands

by natives to non-natives still remained subject to such sanction. This latter requirement was recapitulated in the Law of Property and Conveyancing Ordinance (Chapter 67 of the Laws), and the approval of the Governor is also required to the transfer of a Right of Occupancy between non-natives.

Stamp duties on land transfers are approximately two per cent *ad valorem*, and on mortgages $\frac{1}{4}$ per cent, the duty on mortgages having been reduced in 1929 from one per cent.

Alienation
of land and
land settle-
ment.

Certain areas of the Territory are closed, either permanently or temporarily, to alienation. For some time prior to 1914 the German authorities had been concerned at the amount of land that had been alienated in the north of the Territory, and had decided to close those parts to further settlement, an opinion which the Government of Tanganyika endorsed in 1923. It was, therefore, decided to prohibit the alienation of land in certain areas, except in special circumstances or in particular neighbourhoods in those localities, in order to secure to the natives resident in them sufficient land for future expansion or to give effect to undertakings made by the Government of Tanganyika or its predecessor. The areas in which applications for land for agricultural and pastoral purposes will not be entertained, except in special circumstances or certain restricted localities, are as follows; but the reader is advised to study the map attached to this chapter in which these areas are marked according to the table on the opposite page.

In addition to the areas mentioned, there are others in which, for the time being, individual applications for land will not be entertained. The reason for this restriction is as follows: After the enactment of the Land Ordinance in 1923 applicants for land themselves selected the land which they wished to lease. The land was then inspected by an Administrative Officer, and if no native rights or interests, present or future, were involved, and if there were no other objections to the grant, a Right of Occupancy over the area was disposed of by public auction. The system had manifest disadvantages, as the applicant, not content to take the rough with the

Province.	District.	Area Closed.	Particular Areas in which Applications will be considered.
CENTRAL .	Kondoa	<p>The area enclosed by the under-mentioned boundaries:</p> <p>West.—A line running approximately half a mile west of the Kondoa-Mbugwe Road and parallel to it, from Galai to the Kondoa-Mbulu border.</p> <p>North.—The Kondoa-Mbulu border.</p> <p>East.—A line running along the foot of the steep escarpment, excluding the lower slopes which are suited to native settlement.</p> <p>South.—A line running east and west through Galai.</p>	
MAHENGÉ	Mahenge	<p>(a) The area bounded as follows:</p> <p>On the north by the Sanje River.</p> <p>On the west by the Provincial boundary between the Iringa and Mahenge Provinces.</p> <p>On the south by the Provincial boundary between the Iringa and Mahenge Provinces prolonged in a south-easterly direction until it meets the main road from Kilosa to Ifakara.</p> <p>On the east by the main road from Kilosa to Ifakara.</p> <p>(b) The area bounded as follows:</p> <p>On the north by the Mahenge-Mkasu motor road from the crossing of the Sofi River to Mahenge.</p> <p>On the east by the Kilosa-Mahenge motor road from its junction with the Mahenge-Mkasu motor road to Mfaume Mgoa's (B11 1/300,000 map), thence following the escarpment until it reaches the native road from Said Ngwega's (B15 1/300,000 map) to Sofi.</p> <p>On the south and west, by the said native road from Said Ngwega's to the source of the Sofi River; thence the Sofi River to its crossing with the Mkasu-Mahenge Road, the point of commencement.</p>	
NORTHERN	Arusha	The cultivated area round Meru.	(a) The northern slopes of Meru.
	Moshi	The cultivated area round Kilimanjaro.	(b) The southern slopes of Monduli, with the exception of an area reserved for native occupation.
	Masai	The whole district.	The area round Arushi Chini.
	Mbulu	<p>The area enclosed by the under-mentioned boundaries:</p> <p>On the west by the Rift valley wall.</p> <p>On the north by a line running east and west from the northern spurs of Mount Ufome to Major Cooper's farm, north of Ndareda.</p> <p>On the east by the Masai District.</p> <p>On the south by the Kondoa District.</p>	The area south of the Nduruma settlements.
TANGA .	Pangani	The whole district.	The area south of the Pangani River.
	Tanga Usambara Pare	The whole district. The whole district. The whole district.	

smooth, naturally selected the best pockets, or 'picked the eyes' out of a particular part of the country. Moreover, under the system of public auction the applicant was liable to be over-bid by some complete stranger who, without visiting the area applied for, was thus in a position to obtain a well-chosen and fertile parcel without going to the expense in time, trouble and money of visiting and selecting it. The Government, therefore, resolved itself to select and to dispose of land in areas which were considered to be suitable and available for settlement, and, in the meantime, closed the areas shown in the following table to individual applications. Selection is to be preceded, if possible, by a survey of the agricultural and pastoral possibilities of the land, and, in pursuance of this policy, a Land Development Survey was established in 1927, composed of a senior Administrative Officer, an Agricultural Officer and two Surveyors, to make an intensive survey of areas supposed to be suitable for settlement by non-natives, as well as to report on the economic possibilities of a branch line from the Central Railway to the border of Northern Rhodesia. The First Report of the Survey has been published, and is obtainable from the Crown Agents for the Colonies (4 Millbank, London, S.W.) at a price of Shs.5.

Areas in which individual applications for land will not be entertained are:

- (i) The Iringa Province.
- (ii) The Songea district of the Mahenge Province.
- (iii) The Mbulu district of the Northern Province lying to the west of the Rift Valley Wall.
- (iv) The highlands of Biharamulo (Bukoba Province), and Kibondo and Kasulu (Kigoma Province).

Here, also, reference to the map in this chapter is advisable.

The following statement shows the areas alienated in the different Provinces during the last five years, together with the amounts obtained therefrom in rents:

Province.	1925.			1926.			1927.			1928.			1929.		
	Area.		Rent.	Area.		Rent.	Area.		Rent.	Area.		Rent.	Area.		Rent.
	Acres.	Sha.		Acres.	Sha.		Acres.	Sha.		Acres.	Sha.		Acres.	Sha.	
Bukoba .	..	..	..	..	..	..	28	60	63	49	1,757	2,980	..	..	..
Central .	..	..	..	30	15	265	801	844	1,947	844	..	..	..	..	..
Eastern .	6,520	12,857	..	4,337	5,942	12,842	14,132	12,842	24,749	23,451	33,223	40,414	33,223	40,414	..
Iranga .	1,320	660	..	49,782	24,891	12,165	24,205	12,165	68,414	34,218	29,250	14,704	29,250	14,704	..
Kigoma .	..	..	..	2,100	2,120	1,784	1,926	1,784	200	200	8,171	7,325	8,171	7,325	..
Lindi .	748	624	..	..	..	80	105	80	3,633	3,596	3,044	3,920	3,044	3,920	..
Mahenge .	..	..	..	170	315	..	..	..	290	185	225	113	225	113	..
Mwanza .	..	..	..	120	186	827	1,639	827	2,050	1,650	1,013	683	1,013	683	..
Northern .	1,279	1,279	..	7,190	4,927	40,389	69,463	40,389	40,107	31,452	47,567	31,238	47,567	31,238	..
Tabora .	..	..	..	270	185	3,409	3,407	3,409	6,903	6,936	43	40	43	40	..
Tanga .	..	..	..	60	60	247	495	247	6,472	20,375	..	..	..	..	..
Totals .	9,867	15,420	..	64,029	38,641	72,048	116,201	72,048	154,828	122,956	124,293	101,507	124,293	101,507	..

The following statement shows approximately the number of holdings and the area of agriculture and pastoral land held by various nationals as at 31st December, 1929:

Nationality.	No. of Holdings.	Leasehold Acres.	Freehold Acres.	Total Acres.
British . . .	508	478,875	266,154	745,029
German . . .	347	265,946	95,881	361,827
Indian . . .	337	143,713	166,709	310,422
Greek . . .	240	115,596	113,965	229,561
South African Dutch	44	42,282	24,275	66,557
Danish . . .	12	12,893	8,191	21,084
French . . .	14	16,988	3,044	20,032
American . . .	8	10,683	5,938	16,621
Dantzic . . .	5	12,179	1,347	13,526
Swiss . . .	6	11,660	1,260	12,920
Italian . . .	30	6,477	5,940	12,417
Syrian . . .	13	9,052	2,536	11,588
Swede . . .	6	10,865	..	10,865
Roumanian . . .	11	8,137	2,585	10,722
Dutch . . .	9	6,726	3,286	10,012
Goan . . .	27	8,474	711	9,185
Various . . .	40	6,974	7,417	14,391
Missions . . .	328	22,754	67,429	90,183
Totals . . .	1,985	1,190,274	776,668	1,966,942

Land settle-
ment.

It is essential at the outset to distinguish between land suitable for European settlement and land fit for plantation development, and it may be taken as axiomatic that a healthy environment in which a successful standard of European domesticity can be established is unattainable in the tropics except at comparatively high altitudes. Land in the lowlands which non-native enterprise can turn into a paying proposition is quite another matter, and there are large unoccupied areas in Tanganyika which can be, and are being, developed through the aid of non-native capital and management, notably the sisal estates of the coast and its hinterland, and the fertile but low-lying plains round Morogoro and Kilosa where cotton and sisal thrive. But these areas, in which malaria or the tsetse fly, or both, are prevalent, are not suited for settlement in the accepted sense of the term.

The parts of the Territory in which the European may make his home without frequent visits to a temperate climate and may live, except for wearing a sun helmet, somewhat as

he does in his own country are rather scattered. Broadly, they are to be found in the north-east and south-west of the Territory, that is, on the slopes of Mounts Meru and Kilimanjaro and in the Usambara range in the north, in places in the Iringa Province and, possibly, in parts of the Songea and Ufipa districts in the south.

The available land in the northern part has been nearly all occupied by settlers, and there remains little if any land which can be alienated in the future. Around the foothills of the two great volcanic masses are extensive areas of the highest fertility, but supporting so dense a native population that land congestion is becoming a difficult problem among the tribes which inhabit them. The main estate industries in these northern areas are the growing of coffee, sisal and maize, and, when milling facilities are provided, wheat should be a favoured crop. Farms are to be obtained by purchase from settlers already established, but the cost of coffee land runs high, and £10 an acre is not an out-of-the-way price for promising undeveloped land, while land planted with coffee in bearing fetches as much as £80 an acre. From time to time it may be possible for the Government to find small parcels of land suitable for agriculture or pastoral farming above or in the neighbourhood of the Rift Wall in the Mbulu district, but the area west of the settled land of Arusha awaits a careful economic survey as well as the provision of transport facilities. Between the northern and southern highlands settlement has taken place at Morogoro. The foothills of the Uluguru Hills, however, are not entirely free from malaria or the tsetse, while a cursory inspection of the higher altitudes has revealed no large area, either unoccupied by native cultivation or sufficiently flat for non-native homesteads, which can be made available. This opinion may be premature, but is likely to be endorsed by the report of the Land Development Survey, which has been examining this mountain mass. To the extreme west, the Ufipa Plateau, which lies parallel with Lake Tanganyika, is as yet unsurveyed from the point of view of land development, though, with good soil and an excellent climate, it may prove a possible field for settlement. Water, however, is believed to be lacking.

The most promising areas in which new settlement will probably find room are to be found in the south-western plateau. The better of these areas, such as Mufindi, Dabaga and Lupembe, lie at altitudes from 6,000 to 7,000 feet, have a fairly humid climate expressed in a natural covering of mountain rain forest, and are, accordingly, comparatively well watered. The less favourably situated areas, at altitudes from 5,000 to 6,000 feet, carry a natural savannah vegetation, the sign of a markedly drier climate, with a rainfall of between 25 and 40 inches; they cannot be described as well watered, though some small permanent streams exist.

Both areas suffer from strong winds and much cloudiness, while frost occurs in the higher parts, but, generally, they enjoy a bracing and salubrious climate. In the forest areas tea and coffee are being experimented with, while the drier savannah areas would appear suitable for mixed farming, with or without experimental tobacco. Up to now some two hundred farms have been alienated.

Most of the area has, as stated above, been reported on in detail by the Land Development Survey, which considers that over six hundred square miles can safely be alienated in the areas which it has visited, but the Government has decided to defer the disposal of more land in the south-west until the question of railway communications has been settled, as it is clear that the growing of grain and mixed farming cannot be made to pay without a railway. At present, the produce of the southern highlands has to be evacuated by motor lorry over a distance of two to four hundred miles at a cost of, at least, Sh.1 per ton mile, a rate which renders uneconomic the growing of aught but high-priced crops. Two alternative railway lines to open up the south-western district have been studied. One starting from Kilosa and striking the great plateau scarp would open up the fertile Kilombero Plain, serve well the best highland farming areas and would, over a low pass, reach Songea district and Lake Nyasa at Manda. The other would leave the Central Railway at Dodoma, would pass through one hundred miles of arid and unprofitable country to Iringa and Ubena, would then, by repeated and considerable descents and ascents, skirt the southern plateau

lands to the north and finally reach the Rhodesian border near Fife. Both alternatives could be made, eventually, to link up with an extension of the Northern Rhodesia Railways from Broken Hill or Ndola. The building of a railway, then, would have the most far-reaching effects on this distant area, as not only would it reduce the cost of production in the case of the more valuable crops, but it would create markets for wheat, maize and dairy products, at first among the workers during the period of construction and, later, among districts on the Central Railway.¹

Labour, which is now plentiful in the Iringa Province and obtainable at a wage varying from Shs.6 to Shs.12 a month, will, of course, be attracted by the much higher rate which mining and industrial concerns can afford to pay, but, at the same time, there are many natives, like the Wahehe, who will prefer to stay at home and work. The higher valued crops, given railway communication to the Central line and a reduction in the present high cost of transport, will be able to stand a higher wage, while the lower priced products which require relatively less labour should find a ready market to absorb their entire output.

The upset rental of such land as has been alienated in the southern highlands has varied from fifty cents an acre for land suitable for the growing of perennial crops to ten cents an acre for pastoral farms, so that if further land is disposed of by the Government on the same terms the future settler will not be saddled, as he is in most other countries, with a heavy initial outlay on the purchase of the land itself.

When it comes to the vexed question of the amount of capital required to start farming in tropical Africa, opinions differ and differ widely. It depends in the first place on the crop to be grown. Sisal, for example, is the business of a company or syndicate, as considerable capital is required for the erection of the factory and decorticating plant. Tea, also, is a crop for the capitalist if it is intended that the plantation shall be self-contained and have its own factory; but if tea-growing

¹ Since this chapter was written the Governor has appointed a Committee, presided over by Sir Sydney Henn, K.B.E., to consider proposals for railway development in Tanganyika, particularly with reference to a possible route to the south-western area.

is definitely successful in the high rainfall areas there is no doubt that factories will be erected by a combination of planters to serve a group of estates or set up by companies to deal with settlers' crops. Tea-planting will then be an industry which can be started at a comparatively small outlay. For coffee, the view has been expressed that an initial capital of no less than £5,000 is required, an estimate which probably takes into consideration the purchase of the land. Provided that coffee land can be obtained on lease from the Government, half this amount should suffice. Mixed farming, that is, farming which produces eggs, maize, bacon, cattle, pigs, butter, milk and cheese with, possibly, tea or coffee as side-lines, if the area is suitable, has many advocates and requires somewhat less capital than the higher priced crops. It has the advantage, too, that the farmer does not keep all his eggs in one basket, Wheat may fail because of rust, and cattle may die from disease, drought can deflower the coffee, while a fall in wool prices may cause loss: but seldom do all these calamities occur at once, and when the worst comes to the worst, bacon, dairy produce, poultry and vegetables have kept many a man on his feet. But the market for such produce is, at present, at all events, a restricted one and a farmer thus engaged is seldom wealthy: on the other hand, his failure is a rare occurrence, and, provided that his inclinations are moulded in the right way, he leads a pleasant life in a pleasant land in which, without undue anxiety, he may rear a family.

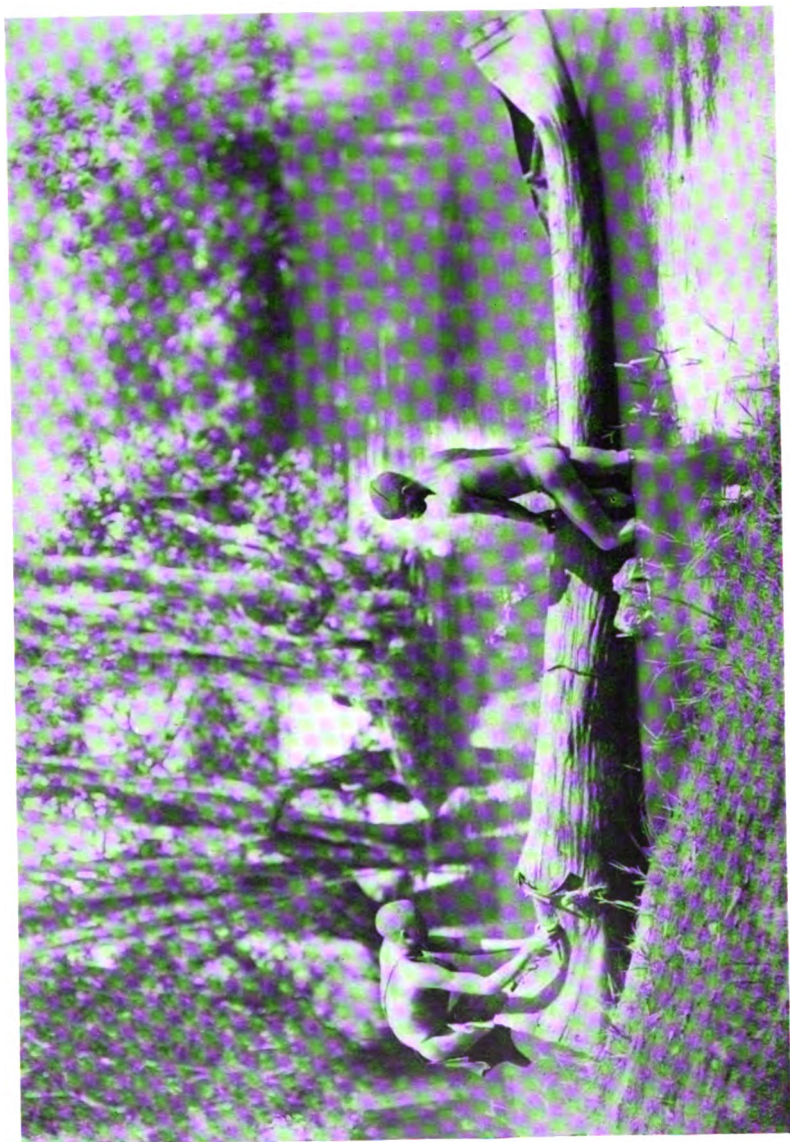
An estimate of the capital required for any kind of farming depends, however, largely upon individuality. Courage in adversity and capacity for hard work are essentials to success, as in most walks of life, while a youth with simple tastes is more likely to make good with a moderate sum to start with than a man of middle age of fixed habits and with, perhaps, a family to support.

In one matter opinion in Tanganyika is unanimous, that the country is no place for the man with no capital. Bad seasons have to be faced, and with most perennial crops an initial period of three years and more must be survived before the crops show any return, though catch crops, such as maize and beans, will contribute something towards the annual budget.



[Photo by E. C. Richards]

THE KIWERA RIVER, RUNGWE DISTRICT
There is a natural bridge over the waterfall



BARK CANOE, MALAGARASSI RIVER, KIGOMA PROVINCE

But a working settler with some knowledge of the kind of farming which he proposes to follow and with some £2,000 in cash, or with a smaller capital sum and a fixed income, should be able to make a successful livelihood. The best thing for any intending settler, however, is to come out and see conditions for himself, being content to conserve his capital until he has looked around and, best course of all, to take up employment in some farming capacity for a year or two, at the end of which he should have acquired a knowledge which will stand him in good stead when he decides to strike out for himself.

(e) LIVESTOCK

The chief native cattle areas of Tanganyika are the General Northern, Central and Iringa Provinces, and, to a lesser extent, the Shinyanga district of the Tabora Province and the Kasulu district of the Kigoma Province. Broadly speaking, they occupy the uplifted central plateau lying between the tsetse zones of the coast and Lake Tanganyika, and they include the Usambara highlands on the Tanga Railway. The cattle are estimated to number about five million head, while sheep and goats, jointly, number a little over this figure, there being fully two and a half million of each. In other words, there is, approximately, one head of cattle and one head of small stock per head of the population.

The cattle of Tanganyika can be divided into two main types, and so marked is the difference between them that they might almost be described as two distinct species. The first, which predominates, is the ordinary short-horned, humped, zebu type, typical of all East African cattle from Somaliland to Portuguese Territory in the south. The second type, which constitutes less than one fortieth of the herds of the country, is the long-horned, practically humpless breed, probably of Nilotic origin, typified in Ankole and found in a greater or lesser degree of purity along the north-western borders of the Territory in the Bukoba Province, bordering the Belgian provinces of Ruanda and Urundi.

Of every imaginable shade and intermixture of shades of colour, these cattle, in different areas, attain an optimum live

weight of about nine hundredweight, while in the poorer cattle districts average specimens do not scale more than three hundred and fifty or four hundred pounds. A fair average for oxen and bulls in all districts would be about six or seven hundred pounds live weight and about five hundred and fifty pounds for cows.

The best cattle are met with in greatest numbers amongst the Masai, especially in the higher country around the Ngorongoro crater and Balbal, where abundant salt deposits, perennial streams, sufficient rainfall, the presence of limestone in the soil, and clover in the grazing makes for more or less favourable ranching conditions. To this may be added the very important factor that an ample milk supply is assured to the calves during their youth, as among the Masai, who are a purely pastoral and nomadic people, very little milk is taken from each cow.

At the opposite extreme are the Wachagga, who live on the slopes of Kilimanjaro and in close vicinity to tsetse fly belts. They are not, primarily, a pastoral folk, and seldom does any individual own more than one or two cows, with the result that the calves are consistently starved. The cattle that they have are kept under miserable conditions in the dwelling-houses, and are fed largely on banana leaves, couch grass and manioc. Such treatment, operating through even a few generations, can reduce the offspring of good cattle, such as Masai foundation stock, to the small, light-boned, weedy animals seen in possession of the Wachagga to-day.

Between these two extremes every degree of good and bad animal is observed, and so varied are the conditions to which cattle must accommodate themselves that in certain areas they have acquired the browsing habits of goats and have become so unaccustomed to grazing that when moved to a grass country they invariably fall off in condition during the first few months. On the other hand, cattle from the highlands of Iringa and the plains of Usangu suffer exceedingly when removed to the densely bushed and sandy areas of Ugogo.

Prices. In recent years the price of cattle has fallen considerably,

and male stock and slaughter oxen can be procured at a price running from Shs.50 to Shs.70 a head. In the Central, Tabora and Mwanza Provinces the supply of foundation breeding stock is adequate to meet the demands of any number of settlers who are likely to come to the Territory, and may be purchased at about the same price as is paid for oxen.

A Government stock farm has been established for some Grade stock. years past near Dar es Salaam and another is now being established in the southern area, near the administrative station of Njombe. Grade stock will be procurable at either of these institutions at reasonable rates, while it is anticipated that, in the course of a few years, a certain number of pedigree animals will be disposed of yearly. At the farm in Dar es Salaam experiments have been made in the grading up and improving the herds of the country by selection within the breed, by the introduction of Indian zebu of kindred family, or of a somewhat intermediate type, viz. the red Afrikander, which shows certain affinities to the African zebu, and by crossing and grading up with various alien breeds, such as Friesland, Ayrshire, Devon. But the experience, extending over a quarter of a century, of pioneers in Kenya shows that caution is required in grading experiments and animal eugenics, and a conservative policy has been adopted in this matter in Tanganyika. In the early days of British administration in the Territory lack of funds and staff restricted the work to a few field experiments at Dar es Salaam on the coast, and limited the material to a very small herd of about a dozen cows and two bulls. As years went by, however, the herds increased, and of late it has been possible to extend the scope of operations. It is thought that the large, strong, heavy-boned Indian zebu cattle of the Krishna Valley type will be most useful for improving native stock raised under the trying conditions to which the indigenous zebu herds of the country are subjected. In the better-grassed areas it would appear that infusion of red Afrikander blood will meet with success, as undoubtedly there is distinct racial affinity between the red Afrikander and the native East African stock. The progeny much resemble their dams, but

also inherit a more robust constitution and larger frames from the sire.

As a side-line, a herd of Indian buffaloes, numbering about twenty, is kept at Mpwapwa. The buffalo in India ranks high as an economic factor, and indications are not lacking that use might be made of these animals in parts of this country, provided that proper attention is given to their management and feeding. The resistance of the African buffalo to trypanosomiasis suggests that a useful cross might be obtained with the Indian buffalo, in the hope that the progeny would inherit the disease-resistance of the one and the tractability of the other parent. So far, great difficulty has been experienced in rearing the African buffalo to maturity, but, at the moment, a heifer eighteen months old shows promise.

In East Africa the term "grade stock" is usually applied to the progeny resulting from the grafting of European blood on native herds, and the use of bulls of greater or lesser purity of European ancestry governs the degree of grading which is accomplished. Pure-bred bulls produce what is known as "half-bred stock"; half-bred bulls mated to native cows produce "quarter-bred stock"; pure-bred bulls on half-bred cows "three-quarter-bred", and so on. This system has been practised all over the world with varying degrees of success and failure, and it can be stated, as a general rule, that the higher the grade of cattle the better must be the conditions under which they are expected to thrive. Under European supervision and in the more temperate and well-watered areas of the Territory, the introduction of European blood into zebu herds is feasible and profitable, but the extent to which this blending should be pushed is primarily controlled by the quality of the pastures grazed and by the extent to which provision is made for supplementary feeding in the winter or dry season.

To summarise briefly, it might well be stated that the food plus environment factor is greater than the racial one, or, in other words, amelioration of the conditions under which the livestock of the country are called upon to live, both in regard to food and treatment, is the primary need and the more difficult of achievement.

The native sheep are of the nondescript semi-fat-tailed Sheep. variety and are mixed in colour, size and type. On the whole, they are small, but in areas more suited to sheep-farming, such as Masailand, the carcase of a good hammel will weigh as much as fifty-five pounds, though the average weight of the dressed carcase throughout the Territory is probably nearer twenty-eight.

A limited number of grade sheep have been bred, and at one place in particular, Kondoa-Irangi, appear to thrive satisfactorily. The crosses experimented with are Corriedale and Karakul.

Much of the high country around Njombe, in Ubena and in parts of Ukingu, all in the Iringa Province, resembles to a striking degree tracts of country which, in Kenya, have been proved to be suitable for woolled sheep. On the newly opened Government farm at Msima River between Ubena and Lupemba a start will be made during the ensuing year to introduce woolled sheep. There is no apparent reason why sheep-farming in the southern area of Tanganyika should not develop into as great a success as in the neighbouring colony of Kenya where, some twenty years ago, the export of wool was practically non-existent, but now amounts to over £100,000 a year.

Goats are ubiquitous, being kept even in fly belts, and Goats. they also are of every size and colour. It is strange, but nevertheless a fact, that the African prefers the flesh of goats to that of sheep, and in Tanganyika a prodigious number of goats are killed and eaten annually by the native.

Kids born from the mating of the large South African Boer and Toggenberg billy-goats with native nannies show indications of promise.

Sheep and goats can be purchased at prices varying from five to twenty shillings according to size, sex and quality.

All natives, except the nomadic Masai, keep numbers of Poultry. fowls. These are of a small, hardy, nondescript type, about as large as European bantams. They are fair layers, and are quite good to eat, provided that the season is a plentiful one and food abundant.

In the past the Veterinary Department has distributed considerable numbers of Leghorn and Rhode Island cockerels gratis. Of these, some have disappeared into the native pot, but a number have survived, and have left their mark on the "shenzi" or native breed.

Pigs.

Very few natives keep pigs, Mohammedan prejudice being the probable reason. Many settlers in Arusha and in the southern highlands breed large numbers of pigs of excellent quality and purity of breed. The erection of a bacon factory at Ulete, in the Iringa district, has given impetus to the industry.

Horses.

The number of horses in the Territory decreases year by year, and most of the few that are here are kept in the northern and southern highlands. The expense of importation and the risk of loss during their passage to the higher altitudes from the fly belts of the coast deter residents from keeping them. As a means of transport they have given way to the motor, and as there are no race meetings or polo clubs in the Territory they have little sporting value.

Census of livestock.

The following is a census of the livestock in the various Provinces of the Territory in 1929:

Province.	Cattle.	Sheep.	Goats.	Pigs.	Donkeys.	Horses.
Central .	1,219,267	359,727	721,305	265	11,518	5
Tanga .	121,266	87,897	210,513	423	775	15
Northern	1,300,481	627,870	649,402	645	32,627	35
Eastern .	15,770	7,041	39,967	195	598	5
Mahenge	7,513	949	20,904	100	5	..
Lindi .	720	1,365	11,998	30	30	..
Iringa .	288,001	29,770	60,000	267	184	14
Kigoma .	62,099	34,578	74,557	268	29	..
Tabora .	613,289	216,746	364,570	145	2,265	..
Mwanza .	1,148,526	727,242	692,741	40	1,834	..
Bukoba .	90,512	41,411	60,681	..	22	..
Totals.	4,867,444	2,134,596	2,906,638	2,378	49,887	74

Exports of livestock produce.

Ghee, a clarified butter, is produced in large quantities by native stock-owners, both for local consumption and for export, mainly to India.

The following are the exports and values:

Year.	Tons.	Value.
1912	330	£12,888
1913	338	15,399
1917	242	15,668
1918	266	18,992
1919	552	39,924
1920	752	66,748
1921	630	31,792
1922	380	18,144
1923	395	17,418
1924	472	25,589
1925	383	37,770
1926	371	32,577
1927	396	30,015
1928	500	37,924
1929	454	36,547

The following are the exports and values:

Hides and
skins.

Year.	Tons.	Value.
1912	2,944	£202,701
1913	3,456	274,511
1917	1,590	110,854
1918	1,588	81,696
1919	4,188	256,312
1920	2,466	249,864
1921	356	23,252
1922	1,518	65,803
1923	2,068	117,554
1924	2,547	185,843
1925	2,661	240,165
1926	2,095	164,435
1927	2,773	236,772
1928	3,292	374,830
1929	2,549	223,002

The market has gone through many vicissitudes and in 1921, for instance, stagnation in the home and continental markets brought the trade in hides to a standstill. After a sharp revival it maintained a steady level, but, despite propaganda directed at improvement in quality, increasingly careless methods of drying and preparation have caused many complaints by buyers against East Africa hides. The Government is prepared to introduce a system of compulsory grading,

if this can be evolved, and advice and information in the matter will be sought from the Empire Marketing Board.

Meat and
canning
works.

A company known as Meat Rations, Limited, was registered locally in August, 1927, for the purpose of establishing in the Territory a meat works, including a beef extract plant and an experimental canning and freezing installation. The works of the company are at Mwanza, and the capital of the company £30,000, which has been fully subscribed. Of this, about £20,000 has been expended in plant and buildings, and operations on meat by-products commenced in September, 1928, while canning is now being tried experimentally. It is proposed also to turn out supplies of chilled meat, feeding meals and fertilizers. In order to afford the population of the Mwanza-Tabora Provinces a market for the disposal of their surplus cattle, for which there is insufficient grazing in these heavily stocked areas, the Government offered concessions to the company in the form of protection from competition for a limited period over a limited area and of a financial guarantee for a period of five years, the Government, in return, being entitled to a share of the profits in excess of a certain percentage on capital and to a voice in the management of the company. The position of the company is that of a controlled agency within the meaning of Article 7 of the Mandate.

The Depart-
ment of
Veterinary
Science and
Animal Hus-
bandry.

The Department of Veterinary Science and Animal Husbandry was organized with a view to the control or elimination of animal diseases throughout the Territory, and to the improvement of the livestock interests and industries of the country. It is administered as a separate unit under the Director of Veterinary Services, but works in the closest collaboration with the Provincial Administration and the Medical, Agricultural, Tsetse Research and Game Preservation Departments. Field operations are carried out by a system of district units in charge of Veterinary Officers working through European Stock Inspectors and through native Veterinary Guards who patrol their respective areas, reporting on and inspecting the cattle within their area.

At the commencement of its labours in 1919 the Veterinary Department could only guess at the magnitude of its

task. From observations made during the war it was known that of the many thousands of equines imported into the country for military purposes all but a few dozen had died, principally from horse sickness, trypanosomiasis, lymphangitis and starvation. It was known also that the maintenance of a supply of animals to meet the demand for fresh meat by the troops had been extremely difficult owing to the widespread and almost uncontrolled presence of rinderpest, bovine pleuro-pneumonia and East Coast fever among cattle, pneumonia, scab and worm disease among sheep and goats, swine-fever among pigs, and fowl-typhoid and pox among poultry. It was conjectured that, in addition to these diseases, there must exist a host of others, the presence of which was still to be proved. Above all, it was known that more than half the Territory was infested by tsetse fly, and thereby rendered deadly to practically all domestic animals.

One of the first tasks of the Department was a survey of the disease situation, and for this purpose it became necessary at the outset to establish a Laboratory division to assist with research and advice, and to manufacture serum on a large scale for use in a campaign against that bovine scourge rinderpest, which was rife after the war. The Veterinary Laboratory at Mpwapwa was, therefore, started in 1922, with a staff of four Europeans, which has since doubled.

The mere perusal of a catalogue of the stock diseases which are known to exist in Tanganyika might create the impression that it is almost impossible for livestock to be kept in health anywhere in the Territory, but this impression would be quite erroneous and, outside the tsetse belts, cattle-farming can be carried on with confidence. Diseases which, if uncontrolled, are capable of doing heavy damage to the herds undoubtedly exist, but, fortunately, they are controlled, or, at least, controllable. Strict quarantine of villages or districts and the segregation of infected animals or herds are the methods found most efficacious for stamping out sporadic cases and epizootics. This is achieved partly by an adequate intelligence system and partly by a permit system under which no stock is permitted to move outside its immediate home radius without a pass. The legislative measure, which

Cattle
diseases.

was framed to meet all likely contingencies, is the Diseases of Animals Ordinance (Chapter 82 of the Laws).

Rinderpest.

Prior to 1914 rinderpest, or cattle plague, was widespread throughout German East Africa, and a campaign against the disease had just commenced to develop. The German veterinary staff then consisted of a Director, twenty-one Veterinary Officers and nine assistants. During the war the plague broke loose and with the utmost virulence raged over every district of the Territory. By 1922 control measures, namely, strict quarantine and the use of anti-rinderpest serum, were commencing to operate. Ninety-three outbreaks, implicating 337,738 cattle, with 26,691 deaths, were dealt with; and 37,229 head were inoculated. In 1923 an increased staff enabled the problem to be attacked more extensively. 374,100 head were implicated; 41,140 died, and 130,000 were inoculated. The death-rate fell to 28,911 in 1924, 17,620 in 1925, and 7,390 for 1926, in which year it levied a toll of only 0.16 per cent on the total herds of the Territory. By 1927 the country, with the exception of the Mwanza Province, had been cleared of rinderpest, but in 1928 a recrudescence occurred in the northern Masai-Kenya border region, infection having been brought into the Territory from Kenya by the illicit movement of some 60,000 head of Masai cattle. This outbreak spread nearly sixty miles southward, but has been arrested and the southern limits of rinderpest pushed back once more to within a few miles of the Kenya border. It is believed that there is no rinderpest in Africa south of this line.

East Coast fever.

This disease is widespread throughout the Territory and, after rinderpest, constitutes the most serious menace to the prosperity of the livestock industry. The disease is more common in some localities than in others, the indications being that it is more prevalent amongst herds grazed on clay soils (red residual clays, or black cotton soils) than amongst those which roam over arid, sandy plains. For instance, Iringa, the humid zone of Lake Nyanza, Mbulu, the foothills of Arusha, Ufume, the southern slopes of Kilimanjaro, Kibaya in southern Masailand, and many of the best mountain grazings in the Masai country are notorious as East Coast fever enzootic areas. These places have certain physical and climatic

features in common, viz. relatively heavy rainfall, permanent water, thick bushy vegetation and abundant grazing, which all favour the multiplication of ticks through which the disease is transmitted. The brown tick (*R. appendiculatus*) is believed to be the common transmitter, but the red-legged tick (*R. evertsi*) and the black-pitted tick (*R. simus*) are both present and, presumably, are implicated. For the purposes of East Coast fever the cattle districts of the Territory can be divided into and classified in one of the following three groups: clean, sporadic and enzootic areas. The form of control advocated by the Veterinary Department varies with the nature of the area involved. Briefly, while in clean and sporadic areas an endeavour is made to prevent incursion and to eradicate the disease by using such dipping tanks as are available, in enzootic areas nothing short of universal dipping is likely to do any good. The native administrations have wakened to the necessity of the regular dipping of cattle and have begun to contribute from native treasuries towards the erection of dips. The problem, however, is so large that years of constructive work will elapse ere any tangible results are seen.

Dips are now in operation at Dodoma, Tabora, Shinyanga, Mwanza, Bukoba, Singida, Kondoa-Irangi, Dar es Salaam, Korogwe, Kibaya, and Tanga, and others are in course of construction at Iringa and at Njombe. From the examination of statistics covering the cost of several hundred thousand dippings, it has been found that the cost of dipping cattle once a week with Cooper's cattle dip works out at less than $\frac{1}{2}$ d. per head, or, approximately, at two shillings per annum. Dipping fees have been reduced by the Veterinary Department to five cents a time. The value of dipping is evidenced by Dar es Salaam, where between three and four thousand head of cattle are dipped weekly and where no case of East Coast fever has occurred for many years among the high-grade and pure-bred imported cattle which graze at large on the township commonages.

Contagious bovine pleuro-pneumonia is now restricted to the Masai herds, and, except on rare occasions, causes a very low mortality in the quarantine areas. These bovine pleuro-
Pleuro-pneumonia.

pneumonia quarantines interfere very little, if at all, with the life and customs of the natives concerned, and oxen continue to be passed out for slaughter under supervision; but a period of at least two years must elapse after all active symptoms have disappeared before quarantine restrictions can be relaxed, and then only with the greatest circumspection. The policy of the Veterinary Department is to confine the disease within its present limits, and to deal, by vaccination, with any serious outbreak which occurs within the quarantine area.

Trypano-
somiasis.

The distribution of livestock throughout Tanganyika Territory is largely determined by the presence or absence of *Glossinae* (tsetse flies) and fully four-fifths of the whole area is infested. For years past the compilation of a map delineating the tsetse-infested areas of the Territory has been systematically pushed forward so that to-day the general boundaries of cattle areas and of the *Glossinae* zones are definitely known. Briefly, there are four main zones—the coastal, the western, the Ikoma and the Lake Nyanza zone. The first of these, as the name indicates, occupies the coastal hinterland from north to south to a depth varying from one hundred and fifty to three hundred miles. The western runs practically the whole extent of the western area of the Territory from the Uganda border to the southern end of Lake Tanganyika, its greatest length being five hundred miles, while its width varies from one hundred to three hundred and fifty miles. The Ikoma zone is an area in the Musoma District of the Mwanza Province, stretching, in places, from the Kenya border to the shores of Lake Eyasi and from Lake Nyanza to the Serengeti plains. In the last of the four zones, namely, Lake Nyanza, much of the country immediately bordering the Lake is free from tsetse, more particularly along the eastern shore, and large herds of cattle can be seen grazing on the water's edge. But many parts are infested, especially at the mouths of the rivers and streams. In addition to these areas, numerous small belts are scattered throughout the Territory, but they are purely local and are isolated from the main zones. Considerable research work has been undertaken at the Mpwapa Laboratory into the disease, particularly as regards curative

treatment. Infected cases are dealt with by subcutaneous injections of antimosan or other antimony drugs.

Other diseases which cause mortality include anaplasmosis, heartwater, anthrax, blackquarter, inoculable three days' sickness, foot-and-mouth disease, tetanus, streptothricosis and follicular mange in cattle; horse sickness, epizootic lymphangitis, ulcerative lymphangitis in horses; sarcoptic mange, contagious pleuro-pneumonia and strongylosis of sheep and goats; canine piroplasmosis and distemper; and in poultry, fowl-typhoid, fowl-pox and neurolymphomatosis (polyneuritis). Other animal diseases.

(f) MINERALS

Under the German administration keen interest was displayed in the mineral resources of the Territory, and the departmental records of that period contain detailed reports on minerals of economic value by geologists and others. A number of discoveries were made, and in some cases exploited, notably gold and mica. Particular attention was given to prospecting for coal and to the examination of the coal-bearing formations which are comparable with the Karroo rocks of South Africa. Development of mining in the Territory.

After the retreat of the Germans, during the campaign, from Morogoro and the Uluguru Mountains, the mica deposits of that region were worked by the Government on behalf of the Ministry of Munitions until the end of the war.

At the close of hostilities prospecting and development were held up pending the enactment of a mining law and the settlement of business in connexion with the registration and sale of ex-enemy mining claims.

A mining law was enacted in December, 1920, and the regulations thereunder were made in May, 1921, but uncertainty as to the position in connexion with claims pegged during the German administration prevented their exploitation, and, owing to the fact that such ground was excluded from prospecting, the pegging of new claims was hindered, more particularly in the auriferous reefs of Mwanza and Musoma. Nevertheless, by the end of 1922, much prospecting was in progress, and a considerable number of claims had

been pegged, chiefly for mica and, as the result of the reported discovery of diamonds near Mabuki, south of Mwanza, for precious stones.

In 1923 a large number of ex-enemy claims were disposed of by the Custodian of Enemy Property, but it was not until much later that the last of such claims was either sold or abandoned. Thereafter prospecting continued actively, but for various reasons it remained for some years almost entirely in the hands of individuals, who, generally speaking, possessed neither the ability nor the means successfully to develop any discoveries made. The provisions of the Mining Ordinance of 1920 did not encourage the larger companies to take an active interest in the mineral possibilities of the Territory, and in order to remedy this state of affairs, a new mining law was enacted in 1929, which, while not neglecting the interests of the individual worker, allows for more liberal grants to be made to those in command of capital. Quite recently a number of the more important mining houses have taken advantage of the new law, and are now employing engineers to examine areas held under claims and to prospect virgin ground.

A number of special prospecting licences covering areas up to two thousand square miles each have been granted to such companies, but there remain to be examined vast areas known to be highly mineralized.

The Mining
Laws.

The following is a brief résumé of the Mining Ordinance, 1929, and the Regulations made thereunder:

Prospecting is authorized by a Prospecting Right, which is valid for one year and costs Shs.10. A Right entitles the holder to prospect for all minerals (except diamonds, prospecting for which requires special permission) throughout the Territory (except in certain excluded areas).

The holder is also entitled to peg and apply for any number of exclusive prospecting licences, claims or mining leases.

The area of an exclusive prospecting licence is generally limited to eight square miles, but the Governor is empowered to grant, under special circumstances, licences in excess of that area under such terms as he thinks fit. The rent of an

exclusive prospecting licence is £5 per square mile, but in the case of special licences it is generally reduced to Shs.2, Shs.4 and Shs.10 for the first, second and third year respectively.

Mining is authorized under claims and mining leases. Claims vary in size according to the mineral discovered and the type of deposit. Thus, an alluvial precious stones or metals claim measures three hundred feet by one hundred feet; a precious metals reef claim, fifteen hundred feet by six hundred feet; a precious stones claim, other than alluvial, twenty acres; a non-precious mineral claim, forty acres; and a mica claim, five hundred acres.

The Commissioner of Mines is empowered to grant five reward claims in the event of a new discovery.

A rental of Shs.10 per annum is payable for every claim, except for reward claims or for precious minerals alluvial claims, which are exempted from such payment. Claims are granted for one year, and are renewable annually.

Mining leases are granted over areas of fifty and six hundred and forty acres in the case of reef and alluvial deposits respectively, and for periods which may not be less than five or more than twenty-one years; a lessee is entitled to a renewal for further terms not exceeding twenty-one years each. The rent is Shs.5 per acre per annum.

Royalty is payable on all minerals won, the rate being five per cent of the gross value, with the exception of precious stones and coal on which the rate is ten per cent of the gross value and thirty cents per ton respectively.

There are ordinances in force regulating mineral oil mining, trading in raw gold, and the protection of the diamond mining industry. These ordinances and the Mining Ordinances, 1929, can be obtained from the Commissioner of Mines or from the Government Printer, Dar es Salaam, or from the Crown Agents for the Colonies in London.

Up to 1926 the administration of mining business was undertaken by the Controller of Mines, who also held the offices of Land Officer and Director of Surveys. In that year these Departments were separated, and a Mines Office was organized under the direction of a Controller (now styled

Administration of the
Mines Department.

Commissioner) of Mines, whose headquarters are at Dar es Salaam.

The areas in which prospecting and mining are in progress are divided into districts; each contains a branch mines office in charge of an Inspector of Mines. There are four such officers—at Bukoba, Mwanza, Mbeya and Morogoro.

**Mineral
occurrences.**

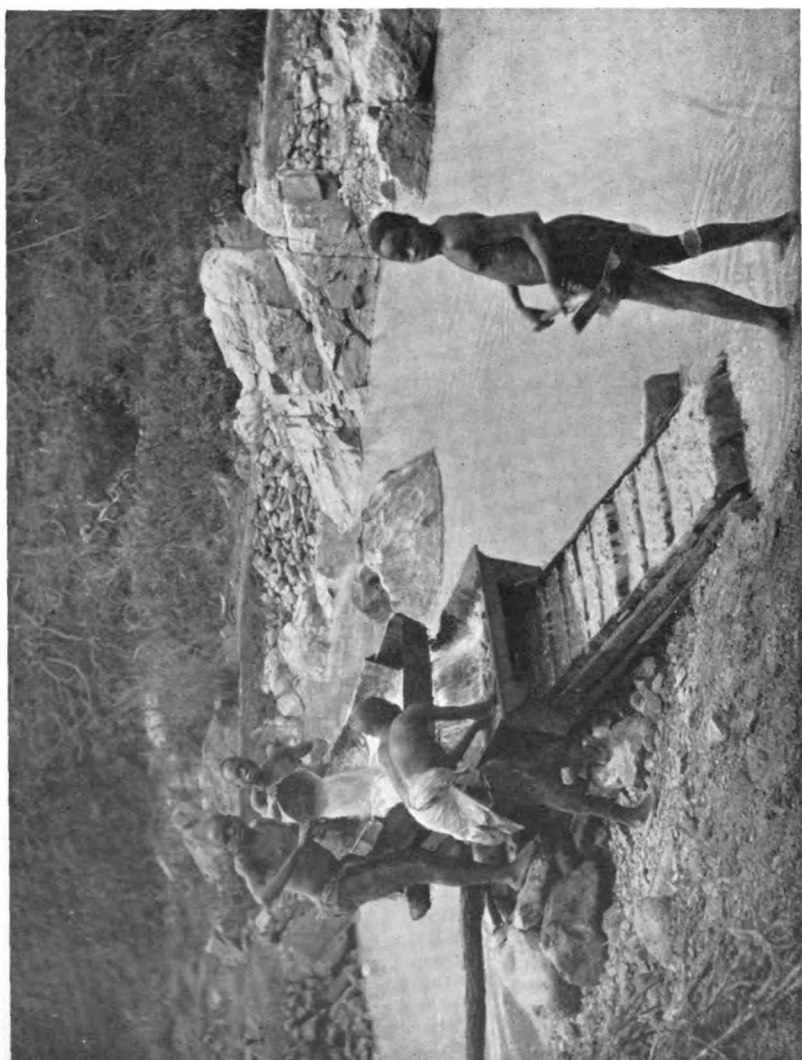
The occurrence of minerals of economic interest has been reported from every district in the Territory. Of those which have been worked for export or local use the following can be mentioned: gold, mica, diamonds, salt, garnets, and red ochre. Others awaiting further development or investigation include coal, tin, copper, iron, graphite, asbestos and soda. Of the other recorded minerals, the following may be mentioned: corundum near Mlale in the Dodoma district; molybdenite in the Usagara Mountains; manganese minerals in the Lindi district, Ikoma and the Livingstone Mountains; phenacite (beryllium silicate) of gem quality in the Kisitwi Mountains, east of Mpwapwa; beryl at Namaputa; magnesite in the Vuju Mountains and the West Ngurus; barytes in the north Nguru region; arsenopyrite, pyrite, galena, wolfram, bismuthinite, zinc-blende, sulphur, agate, amethyst, kyanite, tourmaline.

Details of the more important deposits are given in the following paragraphs:

Gold.

Gold has been won from both reef and alluvial deposits. A number of auriferous quartz reef occurrences were known, and at least two, at Sekenke and Ngasamo, were worked in German times. The districts of Mwanza, Musoma and western Kondoia-Irangi are those in which the greatest activity in the search for the precious metal was shown. Some of the reefs were very rich to a depth of a hundred to a hundred and fifty feet, after which their value dropped rapidly. Owing mainly to the war and the aftermath of disorganization and to other reasons already mentioned, the proving of the auriferous possibilities of this region was long delayed, and it cannot yet be said that many of the reefs have been satisfactorily tested.

The chief auriferous regions in the Territory are:



WORKING A SLUICE-BOX FOR ALLUVIAL GOLD ON THE LUPA RIVER

- (1) the Mwanza-Tabora district extending to the south and east of Lake Nyanza, for a considerable distance;
- (2) the western Kondoa-Itang region; and
- (3) the Mbeya district.

The Mwanza-Tabora district includes the following gold occurrences: Kilimafeza, Nigodi, Maji ya Moto, Buhemba, Nyasirori, Ngasamo, Mrangi, Bismarck Reef and Augusta Victoria. Taking Mwanza as a point of reference, the position of these places are indicated approximately as follows: Kilimafeza at a hundred and forty-five miles east-north-east, Ngasamo at seventy miles east, Nigodi (Ikoma district) at a hundred and thirty miles east between east-north-east and north-east, Mrangi at sixty miles north-east, Bismarck Reef at sixty miles south-west, Augusta Victoria at fifty miles south-south-west, Maji ya Moto, Buhemba and Nyasirori in the Musoma district at ninety to a hundred and twenty miles north-east. Generally speaking, granitic rocks predominate throughout this region with relatively narrow strips of schistose sedimentary and igneous rocks with a general easterly trend. It is almost invariably in these schist zones that the quartz reefs are found. They vary from small to large quartz lenses intimately associated with diorite and greenstone schist. Ferruginous quartzite, often resembling the banded iron-stones of Rhodesia, quartz-schist, sericite, mica-schist and clay-slate, predominate in these zones and recall many of the lithological features of the Swaziland series of South Africa. The quartz occurrences of Ngasamo are described as occurring in east and west shear zones in schistose diabase or chloritic to sericitic schists. In addition to the normal quartz-reef occurrences above described, certain auriferous conglomerates in Ussongo, some hundred and ten miles south from Mwanza, have been recorded. These have been imperfectly explored, but are thought to be possibly comparable with the Witwatersrand beds of South Africa, and thus worthy of further attention. At Nigodi (Ikoma district) the quartz reefs are vertical and are associated with diorite, and the general trend is from east-north-east to west-south-west. Below the oxidized zone the gold is associated with much pyrite.

The Kilimafeza reefs have been under investigation for a number of years, but the company operating have now decided that the mine cannot be worked at a profit, and have shut down finally.

The most promising occurrence in this region is that at Maji ya Moto, which has been acquired by a company which is vigorously carrying out development and is also prospecting the neighbouring areas in which outcrops of auriferous quartz occur.

The Ngasamo mine was fully equipped before the war with a small crushing and cyaniding plant. The presence of tsetse fly in this area has delayed exploitation; but by clearing the surrounding bush the mine has now been freed of this pest, and production on a small scale has been restarted.

In the west Kondoa-Irangi region lies the Iramba Plateau, composed mainly, in its northern portion, of granite and diorite; auriferous reefs are known, but the best-known mine and the one which has so far proved one of the most promising and productive in the Territory is that of Sekenke, which is situated on the lower country of the Wembere Steppe on the western side of the Iramba Plateau. This mine was extensively worked in German times and had an equipped plant. Gold to the value of nearly a quarter of a million pounds was recovered up to the beginning of 1916, when the mine was evacuated owing to the advance of the English troops. After the war the property was sold by the Custodian of Enemy Property, and, later, was acquired by a company which, after reconditioning and unwatering the mine, have resumed production.

The occurrences consist of a series of lenticular quartz reefs in a contact zone between a somewhat altered and often sheared grano-diorite and later fine-grained diorite. The reefs strike about north-north-west to south-south-east and dip to the west-south-west at eighty to eighty-five degrees. Dolerite dykes also intersect the quartz reefs but have no influence on the gold content.

Sekenke is accessible from Manyoni on the Central Railway by motor or ox waggon transport, a distance of some hundred and forty miles. The projected railway to the

Iramba Plateau will pass within about sixty miles of the mine.

On the western edge of the plateau, a number of outcrops, some of which were examined by the former German holders, have been sampled. The assay values proved to be satisfactory, and a ten-stamp battery is being installed by the claim-holders.

In the Mbeya district alluvial gold was discovered in 1923 in the Lupa River, which is a tributary of the Sira, which in turn joins the Songwe River flowing into the southern end of Lake Rukwa. This region lies some three hundred miles south-west from Dodoma on the Central Railway line, but a dry-season motor road from Itigi on the Central Railway is under construction, and, when completed, will shorten the journey by about a hundred and forty miles. The gold is moderately coarse for African alluvial gold and nuggets up to an ounce in weight and over are not uncommon. Several of fifty ounces and one piece of rock and gold weighing over a hundred and twenty ounces and containing about seventy-six ounces of gold were obtained in 1927. The Sira and other tributaries of the Songwe also yield gold, and together with the Lupa, are for the most part rough and bouldery, subject to torrential flows during the rainy season and suffering from a lack of water in the dry season. The gold is very irregularly distributed and conditions for alluvial working are subject to considerable interruption and other difficulties. Up to the present the source of the gold has not been definitely traced.

In addition to the gold in the beds of the Lupa and other similar streams, which can only be worked in the dry season, some of the heaviest gold yet obtained has come from the high level country around the Itebe hills at about a thousand feet above the beds of the main streams. This area can only be worked during the rainy season on account of a complete lack of water during the dry season.

Below the junction of the Lupa and Sira Rivers down to the lake extensive alluvial flats have been laid down. An attempt to "bottom" the gravels by bore-holes in 1926-27 was unsuccessful. A special prospecting licence covering the area has recently been granted and drilling is again in progress.

In a belt of country stretching from a point about fifteen miles east of the Lupa for a distance of nearly fifty miles westward to the Luika Liver, which flows into Lake Rukwa, a great number of quartz outcrops have been discovered.

The reefs in the neighbourhood of the Lupa are characterized by a limited length of strike and width, but carry high values, while those in the Lake Rukwa area are of such extent and persistence that there should be little doubt as to their continuance in depth. The gold content, however, is apparently much lower. A considerable number of these outcrops have been covered by claims and licences. Their holders have carried out a certain amount of development; recently, however, a number of companies have taken options with a view to the systematic opening up of these reefs. Present prospects indicate that a number of small mines, at least, will be profitably worked in the near future.

The rocks of the region belong to the ancient crystalline complex and include dark, hard, hornblendic rocks, chiefly exposed in the Lupa, Ngwaziba and Sira Rivers, and a variety of schists and fine granitic gneiss, basic schists, quartz-schists and magnetite quartz-schist (banded ironstones). These are reminiscent of some of the rocks of Southern Rhodesia. Auriferous copper has been recently reported from this region also.

Gold production from the Territory has been small and irregular owing to many difficulties and uncertainties with regard to local conditions, not the least of which are those of transport and labour. The main source during the past few years has been from the alluvial field, which is, of course, being gradually worked out. That rich pockets are still to be found is proved by the fact that one digger, towards the end of 1929, recovered nearly a thousand pounds' worth of gold as the result of eight days' operations.

The district has suffered from an abnormal drought which has lasted two years and has hindered not only the discovery of gold but also the search for new deposits. An unconfirmed rumour persists that gold has been discovered in the Rungwa River, which rises near Igumira and, flowing in a westerly direction, finally turns south and enters Lake Rukwa.

The following is a table giving the production of bullion in the Territory during the last few years:

Year.	Reef.	Alluvial.	Total.	Value.
	Oz.	Oz.	Oz.	
1923	315	1,010	1,325	£4,906
1924	1,171	6,805	7,976	29,235
1925	1,236	9,159	10,395	38,981
1926	1,122	6,961	8,083	30,312
1927	925	8,621	9,546	34,630
1928	2,537	12,383	14,920	54,551
1929	1,347	9,189	10,536	38,961

Indications of diamondiferous ground were discovered just prior to the war at Mabuki, thirty-six miles south-south-east from Mwanza. The first claims were pegged in June, 1921, but it was not until 1923 that two diamonds weighing two and seven carats were discovered. Diamonds.

At the actual discovery site the underlying rocks were masked by a covering of heavy black alluvial clay. Subsequent work has revealed a deposit of highly payable diamondiferous gravels resting on a decomposed pipe described as a basaltic kimberlite. The pipe is definitely diamondiferous, but its value is insufficient to allow of profitable exploitation.

The gravels have yielded a number of high quality stones, which have been valued at up to £50 a carat. The largest stone recovered weighed fifty-two and a half carats and the average weight produced has been just under one carat.

The usual associated minerals, as found in South Africa, are present, namely garnet, diopside and ilmenite. The origin of the gravel bed and its relation to the underlying kimberlite is not fully understood at present. The correct solution of the problem may come with the fuller prospecting of the area surrounding the pipe, at a considerable distance from which diamondiferous gravels have been disclosed.

In Shinyanga district, south of Mabuki, prospecting has been active. A considerable number of kimberlite occurrences in the form of pipes and fissures have been discovered, some of which carry diamonds. Since 1928 some very fine stones have been recovered, the average weight being remarkably high. The greater part of the output was won from a gravel bed, but at least three of the pipes were proved to be diamondiferous.

Early hopes of immediately discovering a payable pipe have not been fulfilled, but later developments are distinctly encouraging. Among the diamonds recently produced from a kimberlite deposit are two stones weighing seventeen and twenty-five carats each. The following table shows the amounts and values of diamonds exported from the territory:

Year.	Carats.	Value.
1925	411	£2,260
1926	6,695½	37,480
1927	18,766½	101,480
1928	24,680½	99,838
1929	23,300	88,270

Salt. Salt is not an article of oversea export, but it is nevertheless a very important mineral of internal trade. A quantity is also exported across Lake Tanganyika to the Congo. About a quarter of the output is recovered by the evaporation of sea water in the coastal regions, but the main source is from the brine springs of Uvinza (the Gottorp salt-works of German times). These are situated on the Central Railway line west of Tabora at some thirty-five miles in a direct line east of Kigoma on Lake Tanganyika. At this place strong brine springs issue in the valleys of the Lower Rutchugi and Malagarasi Rivers which cut through the flat-lying sediments of the Malagarasi beds to the floor of ancient crystalline rocks. The simple evaporation of the brine yields annually a large supply of salt. Other similar springs occur but are not being worked. The mineral rights over the springs, which belonged to the former German Government, passed, after the war, into the possession of the Government of Tanganyika, which bought out the interests of the German company to which a concession to work the wells had been granted in 1902. The springs were worked for a period by the Belgians during the duration of their occupation of the Kigoma Province and were subsequently taken over in March, 1921, by the Tanganyika Railways until 1926, when a company was formed, in which the Government holds half the shares and on the board of which it is represented, to take over the working of the mines on a commercial basis. A considerable

amount of salt is also collected annually by the natives from Lake Eyasi and other similar lakes along the Rift zone, where an annual crop is formed along the shore, and sometimes over the entire lake-bed, by the high evaporation of the lake waters. Some of this material, especially that within the volcanic region, contains alkaline carbonate as well as common salt.

The following figures show production since 1923:

1923.	1924.	1925.	1926.	1927.	1928.	1929.
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1,887	4,555	4,000	3,105	4,774	5,270	7,367

Good quality mica was exported in German times and continues to be produced from several widely separated areas. The greatest output comes from the Uluguru Mountains and elsewhere, in the vicinity of Morogoro on the Central Railway. Other places of production are the Pare and Usambara Mountains, and the Mpwapwa, Mbeya and Ufipa districts.

The mica is of the muscovite variety and occurs in pegmatite veins which are common throughout the vast region of crystalline complex. Ruby mica is produced at Mikesse in the Morogoro district and in the Kigoma districts. Most of the other regions produce bottle-green and amber varieties. Rich uranium-bearing minerals are sometimes found associated with the mica in the Uluguru region and include pitchblende and rutherfordine.

The export figures from 1911 are given herewith:

Year.	Tons.	Value.
1911	97	£13,930
1912	151	19,260
1917-20	146	40,000
1923	32	19,172
1924	55	27,639
1925	52	31,532
1926	51.5	26,954
1927	43.3	21,000
1928	32.5	14,966
1929	27.15	13,813

It is difficult to account for the steady decrease since 1924. Labour difficulties, the cost of transporting the less valuable grades and the delay in marketing the mineral afford some

explanation of, but do not wholly explain, the serious decline since the years 1911 and 1912. This state of affairs is all the more surprising when the great and continuous expansion of the electrical and automobile industries are considered.

Tin. Tin ore was discovered in the Karagwe district of Bukoba Province in 1924. The samples found included some very coarse, angular blocks of cassiterite. The rocks of the region consist of altered sedimentary quartzite, quart-schist, argillaceous schists of the ancient Karagwe-Ankolian system, continuous with the same series in Uganda. In 1927 cassiterite was discovered in the Bugufi district, on the Belgian border some two hundred miles to the south-west of Bukoba, where geological conditions are similar to those described above.

A large number of exclusive prospecting licences have been granted over the Karagwe area, but much of the earlier prospecting unfortunately lacked system and technical knowledge. At a later period engineers were sent out by two companies and, recently, an important Dutch tin-mining company has undertaken the systematic examination of the greater part of the area. While no deposit of any importance has been discovered, some hundreds of tons of the ore have been proved and indications generally are favourable. In the southern area recent work has disclosed what promises to be an extensive alluvial deposit carrying tin up to twelve pounds to the cubic yard.

The ore exported so far has been the result of mining, by primitive methods, the detrital deposits of Kyerwa, where the original discovery was made. The ore averages 75 per cent Sn.

The tonnage exported is as follows:

Year.	Tons.	Value.
1925	30	£5,397
1926	25	5,575
1927	45	10,555
1928	50	8,500
1929	19½	2,825

Coal. Karroo rocks comparable with the coal-bearing rocks of South Africa occur in at least eight separate areas. In the

eastern zone coal, but not of workable quality or quantity, has been discovered in the Kidodi and Rufiji regions. These two areas have not yet been exhaustively tested. The most promising seams so far known are in the Ufipa (Rukwa) and the Songwe-Kivira region, but both are remotely situated from the Central Railway. The immediate prospect of developing the Ufipa coal depends, firstly, on the possibility of conveying the coal cheaply to some port, probably Kirando on Lake Tanganyika, and thence delivering it by lake transport to Kigoma, the western terminus of the Central Railway, and, secondly, on the existence of a sufficient local market for the coal.

A company is engaged in drilling operations with the object of proving the extent of the coal-beds.

In the Songwe-Kivira region the possible development of the coal so far as use in Tanganyika is concerned, will depend on the location and completion of railway communication into this region, for the area is at present one of the most remotely situated and inaccessible areas in the Territory, lying as it does as a partly down-faulted block on the western Rift zone at the north-west end of Lake Nyasa. Bornhardt, who examined this region closely, recognized two extreme types of coal, one a gas-poor coal burning with a dull, short flame, with no tendency towards the formation of coke, the other a good coking gas-rich coal burning with a long flame and regarded as the most valuable and generally useful. The ash content, like most African coals, is high and the seams show considerable variation in thickness laterally. The most promising sections were noted in the Kandete stream. In a thickness of strata amounting to 20·8 metres the proportion of coal, for a portion of it, is given as follows:

Thickness of Strata.	Thickness of Coal.
4·90 m.	4·84 m.
2·40 m.	2·05 m.
1·20 m.	0·52 m.
2·39 m.	1·56 m.
2·82 m.	2·10 m.

High-grade iron ores of great extent have been recorded in Iron. the Livingstone Mountains in the Rungwe region of Lake

Nyasa, but no analyses are available concerning the composition of the ores. Their relative proximity to the Songwe-Kivira coal may render them of value at some future time. Other extensive deposits occur, but of their quality little is known, and under existing transport conditions their immediate development cannot be considered.

Copper. Copper minerals occur both in the sedimentary rocks of the Bwanji series of the Ukinga Mountains in the Njombe district, and also in the ancient crystalline rocks of the Mpwapwa, Kigoma and Usambara districts. Good specimens of malachite, azurite, chalcocite, chalcopyrite and bornite have been collected, but so far no large deposits of payable ore have been definitely proved. A company is at present engaged in testing the cupriferous sediments of the Ukinga Mountains, and other discoveries in the south-west region are reported; but little is known yet about their extent and value.

Other companies are examining the deposits in Mpwapwa District, both north and south of the Central Railway. The Usambara deposit has been sampled, and the assay results were satisfactory. The ore has been found to be auriferous.

Asbestos. Asbestos in considerable quantity is recorded from the Mpwapwa, Uluguru and Lindi districts, but as far as is known it is all of the amphibole variety. Some clean samples of long, flexible fibre have been found, but so far no deposits have been worked.

The chrysotyle variety has also been discovered in the Mpwapwa and Lindi districts, but further investigation carried out in the former district did not disclose quantities sufficient for profitable exploitation.

Graphite. Flake graphite in the crystalline rocks is very widely distributed, and some highly graphite gneisses and schists are known in the Handeni district, the Uluguru Mountains and the Lindi district. Less pure amorphous graphite is also known in the Uluguru Mountains, but so far no workable deposits have been found, though those in Lindi district have been covered by claims and licences and certainly merit further investigation. A sample weighing five and a half tons was exported in 1928 and was valued at £57.

Garnets, of the almandine variety, have been produced from the Luisenfelde mine in the Lindi Province since 1900, but the mine closed down in 1928 owing to cessation of the demand for such stones. The following is a statement of the quantity exported annually:

Year.	Pounds.	Value.
1903	838	£208
1904	950	827
1905	194	7
1906	75	9
1907	244	414
1908	288	602
1909	414	685
1910	176	322
1911-26	Nil	Nil
1927	111	1,025
1928	88	593

Pieces of bitumen have been found floating on the surface of Lake Tanganyika, but their source has never been traced. The surrounding rocks, with the exception of the sediments in the vicinity of Albertville (Belgian Congo) and in the Kigoma region, are old crystalline rocks, so that it is reasonable to expect the bitumen to be derived either from concealed beds on the floor of the lake or to have been washed into the lake from the sedimentary areas.

The only other likely place to expect indications of oil would be within the region of the coastal sediments, which, so far, have not yielded any trace.

Oil-bearing shales may occur in areas of the Karroo rocks, but samples so far tested from Kidodi and the Tanga district yielded only the merest trace.

The country is well provided with a great variety of suitable material for building, road-making, railway and other engineering work. Limestones, ranging from recent coral rock to hard jurassic limestones, are abundant in the coastal zone and provide useful material for lime-burning, and frequent occurrences of crystalline limestones, usually dolomitic, in the gneissic regions serve the same purpose. Widespread deposits of surface limestone, or tufa, are also of use for lime-making.

CHAPTER X

COMMUNICATIONS

(a) SHIPPING AND STEAMSHIP SERVICES

General.

THE Territory is well served by cargo-carrying steamships, but the passenger services are at the moment barely adequate to cope with the increased volume of traffic, especially during the busier seasons of the year. In the months of March, April and May, for instance, when residents wish to go home for the summer, it is difficult to obtain accommodation unless reservations are made well beforehand; but the shipping companies are alive to the growing needs of East Africa in this respect, and a general improvement in the number of ships and in the nature of the accommodation is likely to occur in the future. The following are the steamship services operating in the Territory.

Steamship services to and from Europe providing passenger accommodation.

The British India Steam Navigation Company, Limited, runs a four-weekly passenger and cargo service from London to East African ports and thence to Beira, where the steamers turn round and resume their homeward journey. The steamers, whose gross tonnage is, on an average, just under 9,000, call at Marseilles, Port Said, Suez, Port Sudan, Aden, Mombasa, Zanzibar, Tanga and Dar es Salaam on the outward and homeward journeys, and take seven days from London to Marseilles and about twenty days for the journey from Marseilles to Mombasa. At this last port they frequently remain for four or five days discharging cargo on the outward voyage, but passengers generally have the option of transshipping to the coastal-going m.v. *Dumra*, belonging to the same Company, which endeavours to time her programme to coincide with the arrival of the ocean-going steamers at

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Mombasa, so as to bring passengers for Zanzibar, Tanga and Dar es Salaam to their destinations without delay.

The Compagnia Italiana Transatlantica ('Citra') runs a monthly service carrying cargo and passengers, leaving Genoa on the fifth of every month for Dar es Salaam, where the steamers turn round on the twenty-ninth of each month. The fleet is composed of two modern steamers, which are each of about 7,500 gross registered tons. They call at Leghorn, Naples, Port Said, Suez, Aden, ports in Italian Somaliland, Mombasa and Zanzibar, and take about twenty-three days for the voyage.

This Company also runs a service, primarily intended for cargo, but carrying a limited number of passengers, from Genoa to Durban every six weeks, calling at Dar es Salaam on the homeward journey only, unless on the outward journey cargo inducement offers. The journey from Dar es Salaam to Genoa on the homeward voyage takes about six weeks.

The Deutsche Ostafrika Linie runs a three-weekly passenger and cargo service from Hamburg to South and East Africa, calling at Southampton, Lisbon, Malaga, Marseilles, Genoa, Port Said, Suez, Mombasa, Tanga, Zanzibar and Dar es Salaam and thence to Lourenço Marques, where the steamers either turn round and resume their homeward journey via the Canal or else proceed to Europe by South Africa, touching at most of the coast ports *en route*. The steamers are on an average about 8,000 to 9,000 gross registered tons. They take nine days from Southampton to Genoa, eighteen days from Genoa to Mombasa, and then another three days to Dar es Salaam. Ships of this line proceeding homewards by the Cape take about seven weeks from Dar es Salaam.

The Holland Afrika Lijn, Joint Service, the Holland South Afrika Lijn and the Holland East Afrika Lijn maintain a frequent and regular service of fast cargo steamers with limited, but comfortable, passenger accommodation, circumnavigating Africa in each direction. At regular fortnightly intervals steamers leave Amsterdam via South Africa and thence proceed homeward via Suez calling at Lindi (if sufficient inducement offers), Dar es Salaam, Zanzibar, Tanga, Mombasa, Port Sudan (if sufficient inducement offers), Suez,

Port Said, Genoa, Marseilles and north Continental ports. The voyage to London via Genoa or Marseilles takes about twenty-seven days, or thirty-five days if passengers disembark at Antwerp. Passengers for London disembarking at Antwerp are provided with first-class tickets, rail and steamer, to London by the Company.

In the opposite direction, i.e. outward via Suez and homeward via South Africa, steamers leave Antwerp at regular three-weekly intervals calling at Port Said, Suez, Port Sudan, Aden (if sufficient inducement offers), Mombasa, Tanga, Zanzibar, Dar es Salaam, and thence travel homeward via South Africa. The outward voyage from Dar es Salaam to London takes about four weeks, and the homeward voyage via the Cape about seven weeks. Passengers from London embark at Antwerp and are provided with first-class tickets, rail and steamer, to Antwerp.

The Messageries Maritimes runs a fortnightly service carrying passengers and cargo from Marseilles to Madagascar and Mauritius and back, calling at Port Said, Djibouti, Aden, Mombasa, Zanzibar and Dar es Salaam *en route*. Two of the steamers are listed in the "A" class of the Company's fleet, while a third is now building, being vessels of about 9,800 gross registered tons, the others being listed in class "B" and average about 7,500 gross registered tons each. The voyage from Marseilles to Dar es Salaam takes about eighteen days.

The Navigazione Libera Triestina S.A. runs a monthly cargo service, which takes a few passengers, from Trieste to East African ports, coming via Suez and returning via the Cape. The ships are built principally for the frozen meat trade of South Africa. The same line has started a service running in the opposite direction, namely, via the Cape and homewards via Suez, taking twenty-three days from Dar es Salaam to Venice.

The Union-Castle Steamship Company, Limited, runs a passenger and cargo service from England to East Africa via Suez monthly, making the round trip via the Cape. The steamers call at Marseilles, Port Said, Suez, Port Sudan, Aden, Mombasa, Zanzibar, Tanga and Dar es Salaam, and take about thirty days from London to Dar es Salaam via the

Canal route, or, vice versa, about thirty-five days from Dar es Salaam to England via the Cape. The Company also runs an outward bi-monthly service via the Cape, returning through the Suez Canal. The larger steamers are about 12,000 gross registered tons and belong to the intermediate class of the Company's fleet.

The Clan, Ellerman, Harrison Joint Service Line runs a three-weekly cargo service from Glasgow and Liverpool to East African ports, calling at Port Sudan, Aden, Mombasa, Zanzibar, Tanga and Dar es Salaam. services to and from Europe carrying cargo only.

The Compagnie Belge Maritime du Congo runs a monthly cargo service from Antwerp to Beira, calling at East African ports.

The Union-Castle Steamship Company, Limited, runs a regular service of steamers carrying cargo only, supplemented by additional steamers when inducement offers.

The Bank and the Prince Lines call at fairly regular intervals with refined and lubricating oils from America. They are principally oil-carrying steamers.

The British India Steam Navigation Company, Limited, runs a fortnightly mail service from Bombay to Durban and vice versa, calling *en route* at Mombasa, Zanzibar, Dar es Salaam, Mozambique (monthly), Beira and Lourenço Marques. The steamers are of about 7,000 gross registered tons and take twelve days from Dar es Salaam to Bombay and seven days from Dar es Salaam to Durban. At intervals, one of these steamers calls at the Seychelles Islands, about three days' journey from Mombasa, calling monthly on the journey from Bombay to Durban, and bi-monthly on the return journey to Bombay. The trip to the Seychelles provides an interesting and restful holiday which appeals to a number of East African residents. Passenger and cargo services to other parts of the world.

The fares from Dar es Salaam to Beira, Durban, Bombay and the Seychelles are as follows:

	1st Class.	2nd Class.
To Beira . . .	£13 0 0	£10 10 0
To Durban . . .	21 0 0	15 10 0
To Bombay . . .	30 15 0	19 14 0
To the Seychelles . . .	11 17 0	8 5 0

The Clan Line and the Ellerman and Bucknell Line run a cargo service at irregular intervals direct to ports in the United States of America from East Africa.

The Ellerman and Bucknell Line runs a regular monthly service from New York and Newfoundland direct to Port Said, Suez, Mombasa, Zanzibar, Tanga and Dar es Salaam and thence to Madras, Rangoon and Calcutta.

The Osaka Shosen Kaisha runs a monthly passenger and cargo service from and to Japan to and from Durban, outwards via Ceylon and homeward via Singapore, calling at Mombasa, Zanzibar and Dar es Salaam.

Coastal
steamship
services.

The Tanganyika Government steamer *Azania* is used primarily for work in connexion with buoys and lighthouses, and makes visits at irregular intervals to ports on the coast.

The Zanzibar Government steamers maintain a regular service between Zanzibar and Dar es Salaam, leaving every Friday morning for Dar es Salaam and returning in the morning of the following day. The passage takes about five hours. The fare from Zanzibar to Dar es Salaam or vice versa is Shs.22/50 first class, and Shs.7/50 for deck passengers.

The British India Steam Navigation Company, Limited, maintains a regular coastal service between coast ports from Mombasa to Mikindani by the m.v. *Dumra*, a well-equipped vessel of 2,300 tons carrying passengers and cargo.

The fares from Dar es Salaam to the coast ports in Tanganyika, Zanzibar and Mombasa by this service are as follows:

	1st Class.	2nd Class (with food).	Deck.
	Shs.	Shs.	Shs.
To Zanzibar . . .	40	30	7/50
To Mafia . . .	40	30	10
To Tanga . . .	60	40	12/50
To Mombasa . . .	80	60	15
To Kilwa . . .	80	50	15
To Lindi . . .	120	75	20
To Mikindani . .	150	100	24

For the round trip of the coast ports from Dar es Salaam to Mikindani and back, which takes about five days and provides enjoyable relaxation, a charge of £10 is made.

The African Wharfage Company, Messrs. Cowasjee Dinshaw and Brothers, and the Deutsche Ostafrika Linie run services between coast ports by small steamers.

The first- and second-class fares from England to Dar es Salaam and vice versa are shown on page 291.

Rebates are given by the various lines, generally at the rate of 10 per cent to officials and their families, missionaries, etc. Passengers taking return tickets or travelling to and from the Territory from Europe by the same line within a specified time, usually twelve months, obtain a re-booking allowance varying from 10 to 15 per cent. Children of passengers are charged, as a rule, one-sixteenth of the adult fare for each year or part of a year of their age, children of fifteen and over counting as adults.

Passengers are entitled to baggage allowance free of charge at the following scales, any excess being charged for at current rates:

Steamship Line.	Amount allowed.		Rate of Baggage in excess of free allowance.
	1st Class.	2nd Class.	
British India Steam Navigation Company, Limited	All personal baggage free, that is, personal baggage contained in trunks, suit cases, uniform cases, hat boxes, etc. 4 cwt.		Shs.10 for every cwt.
Compagnia Italiana Transatlantica			
Deutsche Ostafrika Linie	36 cubic feet	36 cubic feet	Shs.3 per cubic foot.
Holland Africa Lijn	35 cubic feet	..	£4 per 35 cubic feet.
Messageries Maritimes	3 cwt.	3 cwt.	£1 : 12s. per 2 cwt.
Union Castle Steamship Company, Limited	30 cubic feet		

Heavy baggage of passengers disembarking at Genoa and Marseilles from steamers of the Compagnia Italiana Transatlantica and the Messageries Maritimes Lines is, within certain limits, forwarded on to London by other steamers at the Company's expense.

Certain ships have suites or cabins *de luxe* at additional rates, and separate cabins can be obtained on extra payments. Particulars will be supplied by the shipping companies.

Dogs can be imported into the Territory from home without quarantine restrictions, but it is advisable to have a veterinary certificate stating that at the time of embarkation they are free from disease. The freight on dogs is about £8 : 8s.

for large dogs and £5 : 5s. for small breeds. Dogs must be provided with kennels by their owners and with food, passengers making arrangements with the ship's butcher for the latter.

Freights. Information as to freights can be obtained from the shipping companies or their agents, but the following particulars may be useful as a rough indication of the freight (exclusive of packing and clearing charges) on certain articles:

Motor bicycles, about £3:10s. crated, and £4 to £5 uncrated.

Motor bicycles and side-cars, about £10 crated.

Motor cars. The outward freight on cars, crated, is Shs.45 per ton of 40 cubic feet, plus 10s. 6d. per ton landing charges. The freight on cars being taken to England is Shs.65 per ton. The freight depends, of course, on the size of the car, but, on a general average, a four-seater medium size car, crated, takes up from 280 to 320 cubic feet and the freight costs about £20. An allowance of 25 per cent is made by the British India and Union-Castle lines on the combined outward and homeward freight, which must be paid in advance, in the case of a passenger taking a motor car out with him and bringing the same car home, or vice versa. The value of this concession is somewhat discounted by the stipulation that the owner must travel by the same steamer, which may either be inconvenient or impossible. If encouragement were given to them, many car owners in Tanganyika would take back to England, uncrated, cars which they have brought out with them to Tanganyika, use them and have them overhauled in England, and would bring them out again, crated, at the expiry of their stay at home. The cost of taking home an uncrated car and bringing back the same car crated is about £40 for a medium-sized four seater.

Perambulators, non-folding, £1:15s.

Pianos. The freight on upright pianos is about £8 to £10. A piano costing £75 in London, for example, costs about £108 landed in Dar es Salaam. (£75 cost; £3:15s. case and packing; £11:5s. insurance, freight and clearing charges; £18 customs duty.)

Insurance. Baggage can be insured for the voyage through the shipping companies at an average rate of premium of Shs.17/6 per £100.

FARES FROM ENGLAND TO DAR ES SALAAM OR VICE VERSA

NOTE.—For the sake of comparison the cost of the fare from London has been added to the steamer fares in the case of steamships whose terminal port is Marseilles or Genoa. The first- and second-class railway fares (not including wagon-lits or trains *de luxe*) from London to Marseilles are about £7:10s. and £4:2s. respectively. The first- and second-class fares from London to Genoa are about £7:12s. and £5:6s. respectively.

British India Steam Navigation Company, Limited.*				Deutsche Ostafrika Linie.				Holland East Africa Lijn.			
		1st Class.	2nd Class.			1st Class.	By Cape.			1st Class.	By Cape.
						By Suez.				By Suez.	
A Grade	£93 0 0	£57 0 0		A Grade	£102 0 0	£96 0 0		E Grade	£64 0 0	£59 10 0	
B "	83 0 0	..		B "	92 0 0	86 0 0		F "	59 0 0	54 10 0	
C "	73 0 0	..		C "	83 0 0	82 0 0					
D "	68 0 0	..		D "	82 0 0	76 0 0					
Compagnia Italiana Transatlantica.				Messageries Maritimes.				Union-Castle Steamship Company, Limited.			
		1st Class.	2nd Class.			1st Class.	2nd Class.			1st Class.	By Cape.
										By Suez.	
A Grade	£100 12 0	£58 6 0		A Class Steamer	£80 10 0	£52 1 0		B1	£98 0 0	£85 0 0	
B "	87 12 0	56 16 0		B "	73 14 0	47 15 0		B2	93 0 0	81 0 0	
C "	82 12 0	52 6 0						B3	90 0 0	75 0 0	
D "	80 12 0	49 6 0						B4	73 0 0	69 0 0	
E "	74 12 0	..						B5	64 0 0	58 0 0	
F "	70 12 0	..						B6	59 0 0	53 0 0	

NOTE.—There is on these steamships no second-class accommodation, but B4, 5 and 6 grades may be considered as equivalent to second-class accommodation.

* Tickets of the British India Steam Navigation Company, Limited, and the Union-Castle Steamship Company, Limited, are interchangeable. Certain landing charges varying from Shs.3 to Shs.20 are payable at some of the continental ports and are not included in the above list.

SHIPPING FIRMS IN TANGANYIKA AND THEIR AGENTS

Line.	Head Office.	London Agency or Branch Office, if Head Office is not in London.	Agents in Tanganyika.
Bank Line . . .	Messrs. Andrew Weir & Co., Bury Street, St. Mary Axe, London E.C.3.	..	The African Mercantile Co., Ltd., Dar es Salaam and Tanga.
British India Steam Navigation Company, Limited.	122 Leadenhall Street, London, E.C.3. Principal Passage Office, P. & O. House, 14 Cockspur Street, S.W.1.	..	Messrs. Smith Mackenzie & Co., Limited, Dar es Salaam, Tanga and Lindi.
Clan, Ellerman, Harrison Joint Service Line.	Messrs. T. & J. Harrison, Dock House, Billiter Street, London, E.C.3.	..	The African Mercantile Co., Ltd., Dar es Salaam and Tanga.
Compagnia Italiana Transatlantica.	218 Largo Chigi, Rome.	16 Waterloo Place, London, S.W.1.	Établissements L. Besson de l'Est Africain, Dar es Salaam.
Compagnie Belge Maritime du Congo.	67 Rampart Ste. Catherine, Anvers.	Messrs. McGregor, Gow & Holland, Limited, 20 Billiter Street, London, E.C. Messrs. Elder, Dempster & Company, Limited, Fenton House, Fenchurch Street, London, E.C.	Agence Belge de l'Est Africain, Dar es Salaam.
Deutsche Ostafrika Linie	Afrikahaus, Hamburg, 8.	Messrs. Wm. H. Muller & Company (London), Limited, Greener House, 66-68 Haymarket, S.W.1.	Deutsche Ostafrika Linie, Dar es Salaam. Usagara Company, Tanga. Old East Africa Trading Company, Mwanza and Bukoba.

Ellerman and Bucknell Line.	104-106 Leadenhall Street, London, E.C.3.	..	The African Mercantile Co., Ltd., Dar es Salaam and Tanga.
Holland East Africa Lijn	Het Scheepvaarthuis, Prins Hendrikkade, 108-114, Amsterdam.	Phs. van Ommeren, Baltic House, 27 Leadenhall Street, E.C.3 (for freight), and 18-19 Pall Mall, S.W.1 (for passengers).	Twentache Overseas Trading Company, Limited, Dar es Salaam and Tanga. Kikwetu Sisal Estate, Limited, Lindi. Karimjee Jivanjee and Company, Mikindani.
Messageries Maritimes	12 Boulevard de la Madeleine, Paris.	72-75 Fenchurch Street, London, E.C.	Agences Belge de l'Est Africain, Dar es Salaam.
Navigazione Libera, Triestina.	Trieste.	M. C. Fred Hunter, 34 Great St. Helens, London, E.C.3.	Établissements L. Besson de l'Est Africain, Dar es Salaam.
Osaka Shosen Kaisha	Osaka, Japan.	The Ellerman and Bucknell Steamship Company, Limited, 104-106 Leadenhall Street, London, E.C.3.	The African Mercantile Company, Limited, Dar es Salaam and Tanga.
Prince Line	Messrs. Furness, Withy & Company, 52 Leadenhall Street, London, E.C.3.	..	The African Mercantile Company, Limited, Dar es Salaam and Tanga.
Union-Castle Steamship Company, Limited.	3 Fenchurch Street, E.C.3. West End Agency, 125 Pall Mall, S.W.1.	..	Messrs. Smith Mackenzie & Company, Dar es Salaam and Tanga. Messrs. C. C. Monckton & Company, Arusha and Moshi. Messrs. Fawcus & Fairbairn, Iringa.

Lloyds
Agents.

Messrs. Smith Mackenzie and Company are Lloyds Agents for the Territory.

Lighthouses.

The coast is lighted by lighthouses, at Tanga, Dar es Salaam, Ras Kansu, Mkumbi (Mafia), Fanjove Island and Lindi, the lights of which are all visible for fifteen miles or more.

Tonnage at
principal
coast ports.

The tonnage of steam vessels entering and clearing at Dar es Salaam and Tanga is shown in the following table:

Year.	Dar es Salaam.		Tanga.	
	No. of Vessels.	Tonnage.	No. of Vessels.	Tonnage.
1920	154	268,637	80	122,535
1921	201	370,068	120	147,207
1922	310	527,171	187	223,209
1923	301	723,287	164	290,586
1924	272	748,298	151	349,152
1925	324	849,714	223	501,886
1926	363	941,052	257	666,120
1927	429	1,203,038	334	766,354
1928	557	1,429,714	457	860,351
1929	602	1,553,047	478	894,469

Lake steam-
ship services.
Lake Nyasa.

The Nyasaland Government steamer with three two-berth cabins runs on this lake, leaving Fort Johnston at intervals of twenty-eight days and taking a fortnight for the round trip of all the lake ports.

The first-class passage rates between the various ports on the lake are as follows:

	Fort. Johnston.	Domira Bay.	Kota-Kota.	Likoma.	Nkata Bay.	Ruarwe.	Florence Bay.	Manda.	Vua.	Karonga.	Mwaya.
Fort Johnston	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Domira Bay	3 0	3 0	5 0	7 0	8 0	9 0	10 0	11 0	12 0	12 0	12 0
Kota-Kota	5 0	2 0	2 0	2 0	3 0	4 0	5 0	6 0	7 0	7 0	7 0
Likoma	7 0	4 0	2 0	1 0	1 0	2 0	3 0	4 0	5 0	5 0	5 0
Nkata Bay	8 0	5 0	3 0	1 0	1 0	2 0	3 0	4 0	4 0	4 0	4 0
Ruarwe	9 0	6 0	4 0	2 0	1 0	1 0	2 0	3 0	3 0	3 0	3 0
Florence Bay	10 0	7 0	5 0	3 0	2 0	1 0	1 0	2 0	2 0	2 0	2 0
Manda	11 0	8 0	6 0	4 0	3 0	2 0	1 0	1 0	1 10	2 0	2 0
Vua	12 0	9 0	7 0	5 0	4 0	3 0	2 0	1 10	1 0	1 0	1 10
Karonga	12 0	9 0	7 0	5 0	4 0	3 0	2 0	2 0	1 0	1 0	1 0
Mwaya	12 0	9 0	7 0	5 0	4 0	3 0	2 0	2 0	1 10	1 0	1 0

The rates include messing expenses, but no bedding is provided.

Passengers are allowed twenty cubic feet of baggage and one native servant free.

Particulars of steamer sailings on Lake Nyasa may be obtained upon application to the Marine Superintendent, Fort Johnston, Nyasaland.



THE TANGANYIKA RAILWAYS STEAMER *LIEMBA* AT KIGOMA
ON LAKE TANGANYIKA



THE KALAMBO FALLS NEAR KASANGA, LAKE TANGANYIKA

The well-equipped steamers of the Kenya-Uganda rail-ways maintain a regular fortnightly service calling at all ports on Lake Nyanza and carrying passengers and cargo. Lake Nyanza.

Communications on Lake Tanganyika are maintained by the Tanganyika Government twin-screw steamer *Liemba* which makes a fortnightly journey round the lake calling at all ports. This steamer was placed on the lake by the Germans and was known as the s.s. *Goetzen*. Sunk in Kigoma harbour at the beginning of the war she was salvaged by the Tanganyika Government in 1924 and re-conditioned at a cost of over £20,000. The ship possesses excellent accommodation for twelve first-class passengers and a like number of second-class passengers. It is 222 feet long and has a gross tonnage of 793 with a net tonnage of 383. The *Liemba* leaves Kigoma on alternate Mondays, returning to Kigoma the following Thursday week, and calling in the course of her time-table at the following ports: Albertville (the main lake port for the Belgian Congo), Sumbwa (for Karema), Kipili (for Kirando), Wapembe, Kala, Kasanga, Mpulungu (for Abercorn, twenty-six miles distant in Northern Rhodesia) and thence back via Sumbwa and Albertville. Motor cars can be loaded into the *Liemba* at Mpulungu for conveyance to Kigoma and stations on the Central Railway and vice versa. A round trip of the lake, which takes ten or eleven days, is both interesting and enjoyable. The first class fare is £5:11:7, excluding catering charges, which amount to Shs.10 a day; and when this tour is commenced from any station on the Central Railway or on the Tabora-Mwanza branch line, and a return is made to the starting-point, single fare only is charged for the double journey on the railway. Lake Tanganyika.

A day's journey from Kasanga, in the south-west corner of the lake, are the Kalambo Falls, which are nearly 700 feet high and have been visited by comparatively few Europeans. Guides and porters can be obtained at Kasanga, and arrangements could doubtless be made for the *Liemba* to call at Kasanga on the return journey from the south of the lake to Kigoma in the event of a party wishing to make the journey to the Falls.

The T.R.S. *Mwanza*, which has one three-berth cabin for

Europeans and deck space for about thirty native passengers, makes short trips on the lake as required.

The Grand Lacs Company runs a weekly service between Albertville and Kigoma, and maintains regular communications with other lake ports, notably Usumbura, the headquarters of the Belgian Mandated Territory of Ruanda-Urundi and with the port of Uvira, from which the volcanic area of Lake Kivu, with its natural wonders of still active volcanoes, is reached.

(b) HARBOURS AND WHARVES

The wharves of Dar es Salaam and Tanga are controlled by the Railway Administration. The wharf of Dar es Salaam is equipped with three three-ton, one five ton, and one twenty-ton electrical portal cranes. There are also three five-ton steam cranes. In addition, there are two three-ton electrical portal cranes and two five-ton steam cranes in that portion of the wharf which is in the exclusive use of the Belgian authorities for dealing with the transit trade to and from the Belgian Congo. The total wharfage accommodation at the port consists of a concrete open-work wharf 930 feet long, having a minimum depth of water of six feet for lighterage at all stages of the tide. About one quarter of a million tons of cargo can be dealt with annually.

Extensive improvements to the wharf are now in hand. These include reclamation work, and the construction of new transit sheds, the provision of a tug and of fixed moorings in the harbour, and the extension of the existing lighter wharf.

Wharfage accommodation at the Port of Tanga is admittedly unsatisfactory, but a sum of £125,000 will shortly be available for improvements.

Port and
Harbour
Advisory
Boards.

A Port and Harbour Advisory Board was constituted in 1925 to advise on the administration and organization of the port of Dar es Salaam. The Board consists of the General Manager of the Railways (Chairman), the Director of Public Works, the Comptroller of Customs, the Resident Engineer of the Harbour Works, representatives of the lighterage

companies and of the Belgian Concession, and a representative of shipping agents and mercantile firms nominated by the Dar es Salaam Chamber of Commerce. A similar Board for the port of Tanga was formed in March, 1930, consisting of the Provincial Commissioner (Chairman), the District Traffic Superintendent and two representatives nominated by the Tanga Chamber of Commerce. The General Manager of the Railways is an ex-officio member when visiting Tanga.

(c) THE TANGANYIKA RAILWAYS

The Tanganyika railway system consists of:

The Tanganyika railway system.

- (1) The Central Railway from Dar es Salaam to Kigoma, 772½ miles long, with a branch line from Tabora to Mwanza, 235½ miles, on Lake Nyanza.
- (2) The Tanga Railway, 273 miles long, connecting the port of Tanga with Arusha in the highlands of Kilimanjaro and Meru.

These systems are described in greater detail later in this chapter.

The Railway Administration had many difficulties with which to contend on its assumption of the management of the railways on 1st April, 1919. Great damage had been done, both to the Central and Tanga lines, when the country was evacuated by the Germans, and the repairs executed by the British military authorities to enable traffic to resume were necessarily hasty and were often in the nature of patch-work. Most of the rolling-stock was obsolete at the end of the war, and station buildings required renovation, but at the time when money was required for restoration and improvement, funds were scarce. For a time traffic was confined to a few stations, and in the majority did not suffice to pay the wages of the station staff. The Central Province gave no indication of becoming the granary which it now is; the export of cotton and groundnuts from Tabora had not begun, and from Tabora to Kigoma the railway was faced with a long profitless haul of two hundred and fifty miles, nearly one-third of its total length, through tsetse-ridden and unproductive country. The

Tanga Railway, which had had longer to recover than the Central line and ran through a more fertile area, presented a less mournful prospect, but, even so, many of the ex-enemy plantations were derelict. Recovery on both lines took time, but has been achieved by an extensive programme of development and repairs, carried out as funds became available, by the stimulation of agricultural production and the elimination of the loss sustained on the Tabora-Kigoma section by the offer of favourable rates for long-haul traffic to and from the Congo. The latter has resulted in an increase of the transit trade from under £100,000 in 1919-20 to over £2,500,000 in 1929.

The following figures indicate the progress made:

RECURRENT EXPENDITURE AND REVENUE

CENTRAL RAILWAY

(NOTE.—Figures are given in thousands, hundreds being omitted)

Year.	Expenditure.	Revenue.
1919-20	£203,000	£71,000
1920-21	247,000	121,000
1921-22	282,000	155,000
1922-23	251,000	180,000
1923-24	251,000	195,000
1924-25	252,000	281,000
1925-26	287,000	340,000
1926-27	311,000	400,000
1927-28	344,000	501,000
1928-29	397,000	611,000

TANGA RAILWAY

Year.	Expenditure.	Revenue.
1919-20	£82,000	£36,000
1920-21	102,000	36,000
1921-22	105,000	41,000
1922-23	83,000	43,000
1923-24	80,000	43,000
1924-25	81,000	51,000
1925-26	76,000	48,000
1926-27	81,000	60,000
1927-28	92,000	79,000
1928-29	99,000	92,000

CENTRAL AND TANGA RAILWAYS COMBINED

Year.	Expenditure.	Revenue.
1919-20	£285,000	£108,000
1920-21	350,000	157,000
1921-22	387,000	197,000
1922-23	335,000	223,000
1923-24	331,000	238,000
1924-25	334,000	333,000
1925-26	363,000	388,000
1926-27	392,000	461,000
1927-28	436,000	581,000
1928-29	496,000	704,000

WEIGHT OF GOODS CARRIED AND RECEIPTS THEREFROM

Year.	Central Railway.		Tanga Railway.		Combined Railways.	
	Weight.	Amount.	Weight.	Amount.	Weight.	Amount.
	Tons.		Tons.		Tons.	
1920-21	30,000	£88,000	14,000	£15,000	44,000	£103,000
1921-22	34,000	113,000	23,000	20,000	58,000	134,000
1922-23	53,000	134,000	25,000	25,000	78,000	159,000
1923-24	64,000	139,000	25,000	25,000	89,000	164,000*
1924-25	95,000	209,000	24,000	18,000	120,000	227,000
1925-26	108,000	268,000	30,000	24,000	138,000	292,000
1926-27	128,000	308,000	36,000	33,000	164,000	342,000
1927-28	167,000	390,000	56,000	47,000	214,000	438,000
1928-29	173,000	473,000	58,000	45,000	231,000	519,000

* Rates reduced.

NUMBER OF PASSENGERS CARRIED ON THE CENTRAL RAILWAY

Year.	1st.	2nd.	3rd.*	Total.*
1919-20	1,182	2,184	72,000	76,000
1920-21	1,767	2,385	62,000	67,000
1921-22	1,896	3,005	65,000	70,000
1922-23	1,570	3,779	69,000	75,000
1923-24	1,731	5,077	92,000	99,000
1924-25	2,308	7,038	138,000	147,000
1925-26	3,138	7,107	142,000	152,000
1926-27	3,117	8,810	167,000	179,000
1927-28	3,756	10,069	189,000	203,000
1928-29	4,274	11,767	216,000	232,000

* Hundreds not included.

NUMBER OF PASSENGERS CARRIED ON THE TANGA RAILWAY

Year.	1st.	2nd.	3rd.*	Total.*
1919-20	3,786	6,302	162,000	172,000
1920-21	3,271	5,125	139,000	147,000
1921-22	3,070	4,694	124,000	131,000
1922-23	2,182	6,304	107,000	115,000
1923-24	1,550	6,953	126,000	134,000
1924-25	1,955	8,031	167,000	177,000
1925-26	2,050	8,313	186,000	196,000
1926-27	2,035	8,014	226,000	237,000
1927-28	2,070	9,070	263,000	275,000
1928-29	2,022	10,303	290,000	303,000

* Hundreds not included.

Rolling
stock.

The type of coaching stock now adopted as standard has side corridors with four-berth and coupé compartments, with an attendant's compartment in the centre, from which bedding can be issued for night use. A charge of Shs.2/50 is made for the hire of bedding, which consists of two blankets, two sheets, two pillows, and one mosquito net, packed in a canvas valise. Soap and towels are provided in the lavatory compartments. Restaurant cars run on all except short-distance trains, with through communications between them and the remainder of the train.

Sentinel coaches with first, second and third class passenger accommodation are being tried between Tanga and Korogwe, and will, later, be tried on the Moshi-Arusha section of the Tanga Railway and will make for speedier day travel.

Amongst the goods stock in general use the standard vehicles are bogie-covered and open wagons, with a carrying capacity of twenty-five tons, and, for smaller consignments, similar four-wheeled wagons of ten tons capacity. The usual vehicles for special traffic, such as motor vans and heavy loads are provided.

Locomotives may be divided into two classes, viz.: the old pre-war German engine and British engines obtained either during or since the war. The former are gradually being replaced by modern locomotives, the types of which for main line work are 2-8-2 tender engines for the straighter sections

and 4-8-0 and 4-8-2 tender engines for those sections on which the curves are sharper.

The Marine Department is controlled by the Railway Administration and is responsible for buoyage and beaconage of harbours, channels and reefs, on which work the s.s. *Azania* is employed, and for the maintenance of the light-house service. The Tanganyika Railways steamers *Liemba* and *Mwanza* are employed in carrying passengers and cargo traffic on Lake Tanganyika. A sum of £100,000 will shortly be available for the construction of an additional steamer for Lake Tanganyika. Tanganyika
Marine.

The Marine Department also controls the dockyard at Dar es Salaam, which is equipped for the repair of Government vessels and is able to undertake maintenance and repair work on ships using the port, and on craft belonging to lighterage and similar companies at the port. Launch and boat building is a promising industry which is now undertaken at the dockyard. Dar es
Salaam
dockyard.

The Electricity Department, which was first established as a separate unit and was subsequently transferred to the control of the Public Works Department, was taken over by the Railway Administration in 1928. The Department maintains the electricity generating stations and electricity services at Dar es Salaam, Dodoma, Tabora and Kigoma. Negotiations are in progress for transferring the Dar es Salaam electricity supply and allied services to a public-private company, and for the development of electric power from the Pangani River Falls with a view to the provision of cheap power for the sisal and other industries in the Tanga Province and to the lighting of the town of Tanga. Electricity
Department.

Construction was commenced in 1905 and the line reached Lake Tanganyika early in 1914. Except in the neighbourhood of the coastal belt, where it keeps further to the south, the railway follows, on the whole, the old Arab trade route to the lake, but it often takes the line of least resistance, especially from Tabora onwards, and traverses a great deal of barren and sparsely populated country. It is a metre gauge line, 1,244 kilometres in length from Dar es Salaam to Kigoma, and is well constructed. It suffered severely during the war, The Central
Railway.

as the Germans, when driven south in 1916, blew up most of the principal bridges. In all, over ninety major bridges and one hundred sets of points and crossings were blown up and many watering stations were destroyed, the total amount of damage done by the enemy's force being estimated at about £200,000. Temporary repairs were soon effected, and the line was in working order in February, 1917. Owing to lack of civil personnel the line continued to be run by the military authorities until 1st April, 1919, when it was handed over to the Civil Administration as far as kilometre 1,000. From that point to Kigoma the line was worked by the Belgians during their occupation of the Kigoma Province until March, 1921, when they handed over their portion to the Tanganyika railways. Considerable sums have since been expended in improvements, in relaying the line, ballasting, etc., and the Central Railway now compares favourably with any other in tropical Africa.

On leaving Dar es Salaam one first travels between coconut plantations over the gently rising sandy coastal belt, then through the narrow valley of the Msimbazi, where the railway winds its way between cliffs of white sandstone and soft marl, draped with the ever-green curtains of a truly tropical vegetation, to the splendidly wooded escarpment of the Pugu plateau. The tropical luxuriance thereafter gives way to those typical forms of plant life which, whether in bush country, steppe or savannah, cover most of the interior of East Africa, where a climate characterized by a long spell of dry weather forces all plants to do their life-work during the rainy period and to stand dead during the rest of the year. Capped by mighty layers of red earth the highest portions of the plateau reach a height of 660 feet at Mpiyi station, where the eye can wander northwards over miles of rolling bush.

The line then dips down again, past native villages where the coconut palm still stands in clusters, through derelict rubber plantations to Ruvu (kilometre 80), which is almost at sea-level. The line crosses the Ruvu River, which in the dry season is a narrow band flowing through a wide grass plain between high banks of black clay, but at the time of flood a vast extent of water which fills the large valley from hill to

hill. Sisal is much cultivated in the vicinity. Then, for an hour or so, follow low ridges of jurassic limestone where a poor soil produces nothing but thorn-bush and great baobabs, until from Kidugallo (kilometre 133) the blue mountain masses of Uluguru come into view. Beyond the Ngerengere River the railway makes use of several minor tributaries to rise once more, through rocky gorges and between wooded hills where good mica is mined, until it reaches Morogoro, an important station at the northern foot of the Uluguru Mountains. A steep climb over a pass between two outlying hills brings the traveller to the Mkata plain, a vast expanse of grass and park-like country. The view widens, steep mountain scarps appearing in the distance on every side, and there is a good chance of seeing a herd of zebra or giraffe galloping to the palm-fringed river.

As the eastern scarp of the central tableland is approached, a zone which is destined to be of great economic importance is entered, and already cotton plantations increase in extent and number every year. Kilosa (kilometre 283), standing 1,606 feet above sea level at the point where the Mukondokwa River breaks from the mountains, is the first old Arab stronghold touched by the Central Railway. It is now the headquarters of a district and the starting-point for one of the main roads into the south-west of the Territory through Iringa. The railway follows the narrow valley and steadily gains height until it reaches the eastern part of the central plateau. On the right of the line in the neighbourhood of Kidete is Gombo Lake, a picturesque sheet of water which, however, is a source of danger to the railway. In 1919 and again in 1926 abnormal rains caused the lake to overflow across the permanent way and held up traffic for considerable periods. Drainage works were undertaken in 1927, but at the end of 1929 torrential rains caused a flood altogether exceptional and unprecedented within the memory of the native population. The line was washed away in many parts and the Godegode bridge demolished by the raging torrent: traffic had to be suspended until the flood had subsided somewhat, when passengers were shipped from one train to another across the storm water by motor boats. To counteract a recurrence of

these difficulties it will be necessary to spend large sums of money. Passing Gulwe, the station for Mpwapwa, where the headquarters of the Veterinary Department are situated, the line enters Ugogo with its wide horizon broken by huge baobab trees and fantastic-looking granite tors, with its spring flowers, green grass and red earth. Here the Wagogo herd their cattle and till the soil, living in large square flat-roofed mud houses, called "tembes", and aping in outward appearance the Masai. They are a most promising tribe, among which missionaries have worked for thirty years, and they will undoubtedly repay by increased production the care and interest bestowed on them by the administration. Their "boma" and market is at Dodoma, a settlement which has sprung up around an important railway station in a bracing climate, where the traveller from the coast unpacks his spare blankets and where a good hotel affords facilities for a longer stay and excursions into the surrounding country. Here the "Great North Road" from Rhodesia to Kenya cuts the railway line.

Dodoma is situated near the divide between the Indian Ocean and that immense dischargeless area which, to-day, lies along the borders of the great meridional cleft, known as the Rift Valley. The Central Railway cuts this Rift near its southern end and as the train crawls up the steep western scarp a grand view unfolds itself and, as on a gigantic map, the valley lies at one's feet with the glittering surface of a great salt swamp in its southernmost corner.

From near the upper edge of the scarp to Tabora, and again for a long distance west of that town, one travels through hundreds of miles of savannah forest, only rarely interrupted by a grassy plain or a clearing round some wayside station. At kilometre 634 a stone monument indicates the highest point of the line. At last comes a welcome change from the forest when the railway enters the open country surrounding Tabora and soon the town itself, surrounded by granite hills and hidden in its gardens and mango groves, is reached. Tabora is the headquarters of the Province bearing its name and the capital of the country of the Wanyamwezi.

West of Tabora the journey leads through densely popu-



**GOODS TRAIN CROSSING KINONKO BRIDGE ON THE
CENTRAL RAILWAY**



MALONGWE, A WAYSIDE STATION ON THE CENTRAL RAILWAY

lated and well-cultivated country for about 60 kilometres until, at Ussoke, the savannah forest is once more entered, and when the line emerges at Malagarasi station the traveller looks across a vast grass-land extending far north, an accumulation of swamps where the Malagarasi River gathers the drainage of the whole western portion of the granite plateau before it turns west. A little further on, the railway dips into the deeply eroded Malagarasi valley and runs for some distance along the silvery papyrus-fringed stream, with the Nyanza salt works visible on the opposite side.

Once more the line, leaving the main valley, climbs to the plateau, follows it for an hour or so and then, sweeping round the lonely hill-surrounded little lake of Kandaga in a well-surveyed alignment, finally descends into the trough of Lake Tanganyika. At kilometre 1,221 one can just catch a first glimpse of the great inland sea, as the line turns north round the last mountain spur to cross the swampy delta of the Luiche. A few low hills, a few groves of oil-palms, first outposts of the West African forest, and the train pulls up at the terminus on the shore of Kigoma Bay, in sunlight a sheet of dark-blue water, surrounded on three sides by pleasant hills, whilst through the fourth shines the surface of the lake itself.

From Tabora a branch line has been constructed by the Tanganyika Government for a distance of 379 kilometres to Mwanza, an important port in the Speke Gulf on Lake Nyanza, distant by rail 840 kilometres from Dar es Salaam. The construction of a line northwards from Tabora was projected by the German Government, and earthworks were actually started, until the outbreak of war retarded further progress. It was intended to open up the fertile lands of Ruanda-Urundi and later, probably, to connect up with Mwanza. The present branch line was commenced in April, 1925, and was finally opened to traffic in August, 1928. It taps a fertile area producing groundnuts and cotton, and is assisted by good feeder roads by which the country produce can be brought by lorry to the railway.

The Tabora-Mwanza branch line.

From Tabora the line traverses cleared farm lands for about sixteen kilometres, and then passes through an area of

fair "miombo" forest for about another sixty kilometres. This forest is thick with tsetse fly, but by reclamation measures large clearings have been made along the railway, and it is hoped that, with further settlement, the railway will form a barrier to the advance of the fly.

From Bukene at kilometre 89 to Mwanza the line traverses Usukuma, a wonderful stretch of open undulating country carrying vast herds of cattle and capable of producing ground-nuts and cotton as well as food crops. The air is invigorating, and the railway reaches a point in height almost exactly the same as on the Central Railway. Flat-topped hills crowned with granite boulders are characteristics of the country, and, at their foot and between the granite rocks, high hedges of wolf's milk or candelabra euphorbia enclose the huts and gardens of the Wasukuma.

Mwanza itself, though not perfect from the health point of view, is one of the beauty spots of the Territory, with its rocks and islands almost fairy-like in the morning mist. Here connexion is made with the well-equipped steamers of the Kenya-Uganda Railway Lake Service which ply alternately by east and west of the lake to Kisumu, Jinja and Kampala.

Stations,
fares, etc.

The following table shows the stations on the Central Railway and on the Tabora-Mwanza branch line, their height above sea level, distances and fares from Dar es Salaam. The fares are those at present in operation, but are subject to alteration:

[TABLE

Height above sea level.	Kms. from Dar es Salaam.	STATION.	Fares from Dar es Salaam.		
			1st.	2nd.	3rd.
Metres.			Shs. Cts.	Shs. Cts.	Shs. Cts.
12.8	..	Dar es Salaam	..	..	..
100.9	21	Pugu . . .	3 80	2 10	0 70
155.0	54	Soga . . .	9 80	5 40	1 70
100.3	65	Ngeta . . .	11 70	6 50	2 00
36.2	80	Ruvu . . .	14 40	8 00	2 40
60.8	92	Bagalla . .	16 60	9 20	2 80
107.9	106	Msua . . .	19 10	10 60	3 20
165.6	119	Magindu . .	21 50	11 90	3 60
225.9	133	Kidugallo . .	20 00	13 30	3 90
196.0	145	Ngerengere .	26 10	14 50	4 20
265.0	159	Kinonko . .	28 70	15 90	4 60
382.5	174	Mikesse . .	31 40	17 40	5 00
502.9	191	Kingolwira .	34 40	19 10	5 50
497.7	202	Morogoro . .	36 40	20 20	5 80
400.5	242	Mkata . . .	43 60	24 20	6 80
458.0	265	Kimamba . .	47 70	26 50	7 30
490.9	283	Kilosa . . .	51 00	28 30	7 80
669.0	325	Kidete . . .	58 50	32 50	8 70
734.3	345	Godegode . .	62 10	34 50	9 10
783.9	366	Gulwe . . .	65 90	36 60	9 50
1,048.6	427	Kikombo . .	76 90	42 70	10 60
1,129.5	457	Dodoma . . .	82 30	45 70	11 10
921.1	492	Kigwe . . .	88 60	49 20	11 60
832.5	516	Bahi	92 90	51 60	11 90
852.5	547	Makutupora .	98 50	54 70	12 40
1,070.4	569	Saranda . . .	102 50	56 90	12 70
1,267.7	586	Manyoni . . .	105 50	58 60	13 00
1,304.3	626	Itigi	112 70	62 60	13 60
1,269.4	663	Kazikazi . .	119 40	66 30	14 20
1,188.3	731	Malongwe . .	131 60	73 10	15 20
1,170.1	766	Nyahua . . .	137 90	76 60	15 70
1,190.6	805	Igalula . . .	144 90	80 50	16 30
1,197.5	841	Tabora . . .	151 40	84 10	16 80
1,148.0	866	Lulanguru . .	155 90	86 60	17 20
1,142.9	879	Mabama . . .	158 30	87 90	17 40
1,137.2	902	Usoke	162 40	90 20	17 70
1,079.8	964	Kaliua . . .	173 60	96 40	18 70
1,063.4	1,024	Usinge . . .	184 40	102 40	19 60
1,060.2	1,077	Malagarasi .	193 90	107 70	20 40
988.4	1,132	Uvinza . . .	203 80	113 20	21 20
1,059.5	1,165	Lugufu . . .	209 70	116 50	21 70
1,096.8	1,185	Kazuramimba	213 30	118 50	22 00
949.1	1,209	Kandaga . . .	217 70	120 90	22 30
782.1	1,229	Luiche . . .	221 30	122 90	22 60
773.9	1,245	Kigoma . . .	224 10	124 50	22 90
TABORA-MWANZA LINE					
1,150.5	871	Nzubuka . . .	156 80	87 10	17 30
1,171.7	901	Ipala	162 20	90 10	17 70
1,193.1	931	Bukene . . .	167 60	93 10	18 20
1,193.5	972	Isaka	174 80	97 10	18 80
1,204.1	991	Lohumbo . . .	178 20	99 00	19 10
1,183.3	1,017	Usule	183 10	101 70	19 50
1,118.3	1,038	Shinyanga . .	186 90	103 80	19 80
1,213.9	1,079	Seke	194 30	107 90	20 40
1,237.0	1,102	Malampaka . .	198 40	110 20	20 70
1,246.3	1,143	Bukwimba . .	205 80	114 30	21 40
1,230.8	1,166	Mantare . . .	209 90	116 60	21 70
1,168.3	1,196	Fela	215 30	119 60	22 10
1,139.9	1,220	Mwanza . . .	219 60	122 00	22 50

Time tables. The following is the time table at present in force on the Central Railway and on the Tabora-Mwanza branch line:

DAR ES SALAAM TO KIGOMA

	Monday.	Tuesday.	Wednesday.	Friday.		Saturday.	
	Mixed.	Mixed. D.	Mixed. D.	2nd and 3rd Class only.	3rd Class only.	Mixed. D.	Mall. D.
DAR ES SALAAM Dep.	22.00	11.30	10.10	3.30	20.00	12.30	15.00
Pugu . . . Arr.	22.48	12.18	10.58	4.18	20.48	13.18	..
Dep.	22.51	12.21	11.01	4.28	20.51	13.21	..
	Tues.						
Soga . . . Arr.	00.07	13.37	12.17	5.44	22.07	14.37	..
Dep.	00.10	13.40	12.20	5.54	22.10	14.40	..
Ngeta . . . Arr.	00.37	14.07	12.47	6.21	22.37	15.07	..
Dep.	00.40	14.10	12.50	6.24	22.40	15.10	..
Ruvu . . . Arr.	1.14	14.44	13.24	6.58	23.14	15.44	17.50
Dep.	1.24	14.54	13.34	7.18	23.24	15.55	18.00
				Sat.			
Msua . . . Arr.	2.21	15.51	14.31	8.15	00.21	16.52	..
Dep.	2.24	15.54	14.34	8.18	00.24	16.55	..
Kidugallo . . Arr.	3.30	17.00	15.40	9.24	1.30	18.01	..
Dep.	3.35	17.05	15.45	9.49	1.35	18.06	..
Ngerengere . Arr.	4.02	17.32	16.12	10.16	2.02	18.33	20.07
Dep.	4.12	17.42	16.22	10.41	2.12	18.43	20.17
Mikese . . . Arr.	5.25	18.55	17.35	11.54	3.25	19.56	..
Dep.	5.28	18.58	17.38	12.09	3.28	19.59	..
Kingolwira . Arr.	6.17	19.47	18.27	12.58	4.17	20.48	..
Dep.	6.20	19.50	18.30	13.08	4.20	20.51	..
MOROGORO . Arr.	6.48	20.18	18.58	13.36	4.48	21.19	22.30
	Tues.			Fri.			
		20.50	20.00		5.15	21.45	23.00
Masimbu . . Arr.		21.55	21.05		6.20	22.50	..
Dep.		21.58	21.08		6.23	22.53	..
Mkata . . . Arr.		22.26	21.36		6.51	23.21	..
Dep.		22.29	21.39		6.54	23.24	..
					Sunday		
Kimamba . . Arr.		23.07	22.17		7.32	00.02	..
Dep.		23.12	22.22		7.37	00.07	Sunday
Kilosa . . . Arr.		23.43	22.53		8.08	00.38	1.28
Dep.		23.58	23.08		8.23	Sunday	1.43
		Wed.	Thurs.				
Kidete . . . Arr.		1.30	00.40		9.55		3.08
Dep.		1.40	00.50		10.05		3.18
Gulwe . . . Arr.		3.09	2.19		11.34		4.38
Dep.		3.14	2.24		11.39		4.41
Msagali . . Arr.		3.42	2.52		12.07		5.07
Dep.		3.52	3.02		12.17		5.17
Kikombo . . Arr.		5.25	4.35		13.50		6.39
Dep.		5.31	4.40		13.55		6.42
DODOMA . . Arr.		6.36	5.45		15.00		7.42
Dep.		7.10	Thurs.		15.30		8.10
Kigwe . . . Arr.		8.06			16.26		9.03
Dep.		8.11			16.31		9.06
Bahi . . . Arr.		9.00			17.20		9.53
Dep.		9.10			17.30		10.03
Kintinku. . Arr.		9.33			17.53		..
Dep.		9.36			17.56		
Makutupora . Arr.		10.02			18.22		10.50
Dep.		10.05			18.25		10.53
Saranda . . Arr.		11.17			19.37		11.53
Dep.		11.27			19.47		12.03

DAR ES SALAAM TO KIGOMA—continued

	Monday.	Tuesday.	Wednes- day.	Friday.		Saturday.	
	Mixed.	Mixed. D.	Mixed. D.	2nd and 3rd Class only.	3rd Class only.	Mixed. D.	Mall. D.
Manyoni . . Arr.		12.41			21.01		13.08
Dep.		12.56			21.16		13.23
ITIGI . . Arr.		14.04			22.24		14.25
Dep.		14.24			22.44		14.45
					Sunday		
Malongwe . Arr.		17.41			2.01		17.40
Dep.		17.44			2.04		17.43
Nyahua . . Arr.		18.46			3.06		18.38
Dep.		18.56			3.15		18.48
Igalula . . Arr.		20.21			4.40		20.03
Dep.		20.31			4.50		20.13
TABORA . . Arr.		21.41			6.00		21.13
Dep.		22.30			Sunday		21.45
Mabama . . Arr.		23.50					23.00
Dep.		23.53					23.03
		Thurs.					
Usoke . . Arr.		00.33					23.38
Dep.		00.43					23.48
							Mon.
Kaliua . . Arr.		2.48					1.43
Dep.		2.58					1.53
Usinge . . Arr.		4.46					3.33
Dep.		4.49					3.36
MALAGARASI . Arr.		6.49					5.27
Dep.		7.20					5.55
Uvinza . . Arr.		9.25					7.50
Dep.		9.40					8.00
Kazuramimba . Arr.		12.00					10.10
Dep.		12.05					10.13
Luiche . . Arr.		13.46					11.49
Dep.		13.49					11.52
KIGOMA . . Arr.		14.19					12.20
		Thurs.					Mon.

TABORA TO MWANZA

	Mixed. Sunday.	Mixed. Wednesday.		Mixed. Sunday.	Mixed. Wednesday.
TABORA . Dep.	22.00	22.35	SHINYANGA . Arr.	6.15	6.50
Monday		Thursday	Dep.	6.45	7.20
Ipala . Arr.	00.20	00.55	Seke . . Arr.	8.15	8.50
Dep.	00.25	1.00	Dep.	8.20	8.55
Bukene . Arr.	1.30	2.05	Malampaka . Arr.	9.07	9.42
Dep.	1.45	2.20	Dep.	9.22	9.57
Isaka . Arr.	3.25	4.00	Bukwimba . Arr.	11.15	11.50
Dep.	3.30	4.05	Dep.	11.20	11.55
Lohumbo Arr.	4.10	4.45	Mantare . Arr.	12.21	12.56
Dep.	4.15	4.50	Dep.	12.26	13.01
			Fela . . Arr.	13.28	14.03
			Dep.	13.33	14.08
			Mwanza South Arr.	14.23	14.58
			Dep.	14.27	15.02
			MWANZA . Arr.	14.35	15.10
			Monday		Thursday

KIGOMA TO DAR ES SALAAM

	Friday.	Sunday.	Tues- day.	Monday.	Monday.	Thurs- day.
	Mixed. D.	Mixed. D.	2nd and 3rd Class only.	3rd Class only.	Mall. D.	Mixed. D.
KIGOMA . . Dep.	15.30				22.35	
Luiche . . Arr.	16.12				23.13	
Dep.	16.15				23.16	
Kazuramimba . Arr.	19.10				Tues.	
Dep.	19.15				1.53	
Uvinza . . Arr.	21.25				1.58	
Dep.	21.35				3.58	
MALAGARASI . Arr.	23.45				4.08	
Sat.					6.08	
Dep.	00.15				6.35	
Usinge . . Arr.	2.15				8.26	
Dep.	2.18				8.29	
Kaliua . . Arr.	4.06				10.09	
Dep.	4.16				10.19	
Usoke . . Arr.	6.21				12.14	
Dep.	6.30				12.24	
Mabama . . Arr.	7.14				13.02	
Dep.	7.24				13.05	
TABORA . . Arr.	8.44				14.20	
Dep.	9.30			19.15	14.50	
Igalula . . Arr.	10.33			20.18	15.45	
Dep.	10.43			20.28	15.55	
Nyahua . . Arr.	12.03			21.48	17.05	
Dep.	12.13			21.58	17.15	
Malongwe . Arr.	13.19			23.04	18.15	
Dep.	13.22			23.07	18.18	
ITIGI . . Arr.	16.52			Tues.		
Dep.	17.12			2.37	21.26	
Manyoni . . Arr.	18.20			3.04	21.46	
Dep.	18.35			4.12	22.48	
Saranda . . Arr.	19.30			4.27	23.03	
Dep.	19.40			5.22	23.55	
Makutupora . Arr.	20.37			5.30	Wed.	
Dep.	20.40			6.27	00.05	
Kintinku . . Arr.	21.06			6.30	1.00	
Dep.	21.09			6.56	..	
Bahi . . Arr.	21.32			6.59		
Dep.	21.40			7.22	1.47	
Kigwe . . Arr.	22.51			7.30	1.57	
Dep.	22.54			8.41	2.47	
Sunday				8.44	2.50	
DODOMA . . Arr.	00.54			10.44	4.05	
Dep.	1.25			11.20	4.30	22.00
Kikombo . . Arr.	2.32			12.27	5.27	23.07
Dep.	2.37			12.32	5.30	23.12
Msagali . . Arr.	3.56			13.51	6.39	Fri.
Dep.	4.06			14.01	6.49	00.41
Gulwe . . Arr.	4.34			14.29	7.15	1.09
Dep.	4.39			14.34	7.20	1.14

KIGOMA TO DAR ES SALAAM—continued

		Friday.	Sunday.	Tues- day.	Monday.	Monday.	Thurs- day.
		Mixed. D.	Mixed. D.	2nd and 3rd Class only.	3rd Class only.	Mall. D.	Mixed. D.
Kidete	. Arr.	5.54			15.49	8.30	2.29
	Dep.	6.04			15.59	8.40	2.39
Kilosa	. Arr.	7.20			17.15	9.50	3.55
	Dep.	7.35	18.30		17.30	10.05	4.15
Kimamba	. Arr.	8.05	19.00		18.00	10.33	4.45
	Dep.	8.10	19.05		18.05	10.38	4.50
Mkata	. Arr.	8.50	19.43		18.45	11.15	5.30
	Dep.	8.53	19.46		18.48	11.18	5.33
MOROGORO	. Arr.	10.48	21.27		20.43	12.42	7.28
					1st, 2nd and 3rd mixed		
	Dep.	11.15	22.00	8.30	22.00	13.00	8.00
Kingolwira	. Arr.	11.45	22.30	9.00	22.30	13.26	8.30
	Dep.	11.48	22.33	9.10	22.33	13.29	8.33
Mikease	. Arr.	12.27	23.12	9.49	23.12	14.04	9.12
	Dep.	12.30	23.15	10.04	23.15	14.07	9.15
			Mon.		Wed.		
Ngerengere	. Arr.	13.32	00.17	11.06	00.17	15.06	10.17
	Dep.	13.42	00.27	11.31	00.27	15.16	10.27
Kidugallo	. Arr.	14.15	1.00	12.04	1.00	15.43	11.00
	Dep.	14.18	1.03	12.29	1.03	15.46	11.03
Msua	. Arr.	15.17	2.02	13.28	2.02	..	12.02
	Dep.	15.20	2.05	13.31	2.05	..	12.05
Ruvu	. Arr.	16.16	3.01	14.27	3.01	17.34	13.01
	Dep.	16.26	3.11	14.47	3.11	17.44	13.11
Ngeta	. Arr.	17.02	3.47	15.23	3.47	18.16	13.47
	Dep.	17.05	3.50	15.26	3.50	18.19	13.50
Soga	. Arr.	17.35	4.20	15.56	4.20	18.46	14.20
	Dep.	17.38	4.23	16.06	4.23	18.49	14.23
Pugu	. Arr.	18.56	5.41	17.24	5.41	19.59	15.41
	Dep.	18.59	5.44	17.34	5.44	20.02	15.44
DAR ES SALAAM	Arr.	19.44	6.29	18.19	6.29	20.44	16.29
		Sunday	Mon.	Tues.	Wed.	Wed.	Fri.

MWANZA TO TABORA

	Mixed. Monday.	Mixed. Friday.		Mixed. Monday.	Mixed. Friday.
MWANZA . Dep.	21.20	15.40	SHINYANGA Arr.	5.10	23.30
Mwanza South Arr.	21.28	15.48	Dep.	5.40	00.00
	Dep.	21.32			Sat.
Fela . Arr.	22.22	16.42	Lohumbo . Arr.	7.40	2.00
	Dep.	22.27	Dep.	7.45	2.05
Mantare . Arr.	23.29	17.49	Isaka . Arr.	8.25	2.45
	Dep.	23.34	Dep.	8.30	2.50
	Tues.		Bukene . Arr.	10.10	4.30
Bukwimba . Arr.	00.35	18.55	Dep.	10.25	4.45
	Dep.	00.40	Ipala . Arr.	11.30	5.50
Malampaka . Arr.	2.33	20.53	Dep.	11.35	5.55
	Dep.	2.48	TABORA . Arr.	13.55	8.15
Seke . Arr.	3.35	21.55		Tues.	Sat.
	Dep.	3.40			

The Tanga
(or Northern)
Railway.

The Tanga Railway consists of a German-built line from Tanga to Moshi, with a length of 352 kilometres, and a British-built branch from Moshi to Arusha, 87 kilometres in length.

The first portion of the line, which links up Tanga, the northern port of Tanganyika, with the rich hinterland of Moshi at the foot of Kilimanjaro, was commenced by German private enterprise as early as 1893. As stated in a previous chapter, the German Government had to come to the rescue of the Company which started it, and this link was eventually taken over by the German Government and was continued as far as Moshi, which was reached in 1911. Plans for an extension to Arusha, just over fifty miles on, were drawn up by the German administration, but were not proceeded with, and it remained for the Government of Tanganyika to construct this further portion, which was commenced in October, 1927, and was opened to traffic in December, 1929. The fact that, in its coastal section, the line represents the first German experiments in Colonial railway construction, and that destruction during the war was more thorough than on the Central Railway, renders travelling on the Tanga line less comfortable, perhaps, than on the main line, a drawback for which adequate compensation exists in the truly magnificent mountain scenery which the railway traverses.

Immediately west of Tanga the line rises to the narrow belt of sediment (here consisting of jurassic limestone), where native villages, slumbering under fine old mango trees, alternate with bush or large sisal estates. But after about thirty kilometres the topography becomes more accentuated, even mountainous in places, and the railway has to find its way through an amazing labyrinth of foothills, all covered by a tropical vegetation either in its original form of jungle and forest or in the shape of European plantations. Every now and then, between hill and tree, the heights on the Usambara Mountains become visible, but only at Mnyusi (kilometre 70), where the flat valley of the Pangani is reached, does the traveller realize the extent and the wonderful beauty of this great mountain massif, along the foot of which the

line now continues for almost a hundred kilometres. Geologically this mountain land, rising to 4,000 feet in the east and to 7,200 feet in the north-west, consists of gneiss and has probably been separated from the great Central Plateau by the down-faulting of the depression which to-day forms the Pangani River valley. This river, fed by the mountain ranges of Usambara, Pare, Kilimanjaro and Meru, and carrying a steady flow of water throughout the year, breaks through the foothills in a series of cataracts and cascades over two mighty falls, of which the lower is a wonderful sight, with its curtains of foam tumbling into the chasm below amid a frame of luxuriant vegetation. It takes six hours to reach these lower falls from Mnyusi station, but the tourist who has spare time and does not mind rough going will be amply repaid for his exertions. The mountains themselves afford a continually changing and most beautiful scenery. In steep rocky scarps they drop into the valley, the lower slopes carrying bush, the higher grass-land, while over the ledge hangs the rain forest, which covers upper Usambara in large sheets and reaches down almost to the plain, wherever a ravine guarantees the necessary moisture.

From Mombo the fine mountain road to Lushoto leads right into the heart of this wonderful land, and an hour's ride in a car will lift the traveller from the hot steppe into almost alpine surroundings, with deep-cut rocky gorges, soft green meadows with their northern flowers, and forests of cedar and podocarpus. A little further on, the end of Usambara is reached, and with it the end of the cultivated zone along its foot. The wide gap between the bare rocky scarp of Western Usambara and that of Pare, a new mountain massif that now appears in the north-west, is filled by desert country where nothing grows but crippled thorn bush. In the middle of this gap, with the fine pyramid of Lasa Hill in the north, is Buiko station, a wind-swept spot, lying by the side of the river forest on a slight ridge between the Pangani and Mkomasi rivers. The line continues onwards along the western foot of the long Pare range, rising gradually over a most sterile foreland where the odd shapes of succulent plants tell a story of misery and drought. But up above the rocky

cliffs of the mountain chain can be seen the green forest and meadows and the homes of the Wapare who fled into the mountains before the raiding Masai. An hour beyond Same station, the highest point of the line is reached at kilometre 284 (3,290 feet above sea level), and from here it is that, in clear weather, one sees for the first time the noble form of Kilimanjaro rising, still seventy miles away, from the brownish haze of the steppe, breaking through its belt of cloud and reaching with its crown of ice high into the sky. On approaching the foot of the mountain one sees first the desert steppe, then the cultivated band of Chagaland with its banana groves and with its smoke arising from thousands of homesteads. The dark-green mountain forest circles the cultivated belt and, above it, grey from the choking mass of lichens which cover its heather trees, is the temperate rain forest. Above that are the alpine meadows, then, higher still, the brown bare rock, and, finally, glittering in its cold beauty, the arctic desert of snow and ice.

New Moshi, the railway and administrative station, lies entirely in the dry, dusty steppe, although, quite close, a patch of fine mountain forest runs far out into the foot-plain along the course of a stream. From Moshi there is direct communication with the Kenya-Uganda Railway through Kahe junction, twenty kilometres from Moshi, to Voi, which is one hundred and forty-seven kilometres distant. The point of transfer for passengers and goods is Moshi, between which station and Kahe junction the Kenya-Uganda Railway has running powers over the Tanganyika Railway system.

The Voi-Kahe branch line lies almost entirely within Kenya Colony and was built by the military authorities during the war to facilitate the advance into German East Africa. It was closed down in April, 1923, and was subsequently purchased by the Kenya-Uganda Railway, being reopened for traffic by that administration in the following year. From Moshi to Arusha the line crosses the Sanya plains, barren and almost waterless, but affording good grazing for immense herds of Masai cattle. The volcanic soil is churned into clouds of dust by the animals in their passage, or, caught up by

the wind, forms smoke-like spirals which move leisurely across the face of the plain. Giraffe and ostrich, zebra and gazelle find pasture there or in the park-like country which follows, until the coffee plantations of the European settlers are reached. From Usa onwards the line passes through or near a succession of homesteads which stretch right up to the town of Arusha nestling at the foot of Mount Meru.

The following table shows the stations on the Tanga Rail- Stations, way, their height above sea level, distance and fares from fares, etc. Tanga. The fares are those at present in operation, but are subject to alteration.

Height above sea level.	Kms. from Tanga.	STATION.	Fares from Tanga.		
			1st.	2nd.	3rd.
Metres.			Shs. Cts.	Shs. Cts.	Shs. Cts.
21.2	..	Tanga . . . . .	..	..	..
93.5	15	Pongwe	2 70	1 50	0 50
111.0	25	Ngomeni	4 50	2 50	0 80
196.5	40	Muhesa	7 20	4 00	1 20
188.7	45	Tengen	8 10	4 50	1 40
187.0	51	Bwembwela	9 20	5 10	1 60
185.9	56	Kihuhwi	10 10	5 60	1 70
273.1	69	Mnyusi	12 50	6 90	2 10
293.5	84	Korogwe	15 20	8 40	2 60
315.0	92	Ngombezi	16 60	9 20	2 80
355.5	98	Maurui	17 70	9 80	3 00
396.2	114	Makuyuni	20 60	11 40	3 40
413.1	130	Mombo	23 40	13 00	3 80
441.3	142	Masinde	25 60	14 20	4 20
426.2	149	Mkumbara	26 90	14 90	4 40
456.2	168	Mkomasi	30 30	16 80	4 90
533.5	175	Buiko	31 50	17 50	5 00
647.0	200	Hedaru	36 00	20 00	5 70
680.2	219	Makanya	39 50	21 90	6 20
857.6	253	Same	45 60	25 30	7 00
951.6	292	Lembeni	52 60	29 20	8 00
771.8	312	Kisangiro	56 20	31 20	8 40
708.1	332	Kahe	59 80	33 20	8 80
728.0	342	Sanya Junction	61 60	34 20	9 00
810.0	352	Moshi	63 40	35 20	9 20
		Moshi to Nairobi via Kenya-Uganda Railway .	86 80	59 40	17 38
		Moshi to Mombasa via Kenya-Uganda Railway .	55 50	37 44	11 66

The following is the time table of trains on the Tanga Railway at present in force:

MOSHI TO TANGA

STATIONS.	Mixed. Dally.	Mall. Thursday and Sunday only.	Mixed. Tuesday, Thursday and Sunday only.
KENYA AND UGANDA RAILWAY			
NAIROBI . . . Dep.	..	Tuesday 16.00	..
Mombasa . . . Dep.	..	16.30	..
MOSHI . . . Arr.	..	Wednesday 16.25	..
MOSHI . . . Dep.	..	Thursday & Sunday 21.40	..
Rau River . . . Dep.	..	22.05	..
Kahe Junction . . . Dep.	..	22.40	..
Kisangiro . . . Dep.	..	23.28	..
Lembeni . . . Dep.	..	Friday & Monday 1.03	..
Same . . . Dep.	..	2.43	..
Makanya . . . Dep.	..	3.56	..
Hedaru . . . Dep.	..	4.54	..
BUIKO . . . Arr.	..	5.43	..
Dep.	..	5.58	7.10
Mkomasi . . . Dep.	..	6.23	7.35
Mkumbara . . . Dep.	..	7.10	8.27
Masinde . . . Dep.	..	7.30	8.47
MOMBO . . . Arr.	..	8.00	9.17
(For Lushoto) . . . Dep.	..	8.20	9.37
Makuyuni . . . Dep.	..	9.11	10.28
Maurui . . . Dep.	..	10.16	11.33
Ngombezi . . . Dep.	..	10.38	12.00
KOROGWE . . . Arr.	..	11.06	12 28
Dep.	13.40	11.26	..
Mnyusi . . . Dep.	14.30	12.16	..
Kihuhwi . . . Dep.	15.21	13.07	..
Bwembwela . . . Dep.	15.46	13.32	..
Tengeni . . . Dep.	16.07	13.53	..
MURESA . . . Arr.	16.20	14.06	..
Dep.	16.25	14.11	..
Ngomeni . . . Dep.	17.09	14.55	..
Pongwe . . . Dep.	17.50	15.26	..
TANGA . . . Arr.	18.12	15.48	..

TANGA TO MOSHI

STATIONS.	Mixed. Daily.	Mixed. Tuesday, Thursday and Sunday only.	Mail. Wednesday and Saturday only.
TANGA <i>Dep.</i>	8.00	..	12.00
Pongwe <i>Dep.</i>	8.35	..	12.35
Ngomeni <i>Dep.</i>	9.25	..	13.15
MUHESA <i>Arr.</i>	10.05	..	13.55
.. . . . <i>Dep.</i>	10.10	..	14.00
Tengeni <i>Dep.</i>	10.29	..	14.19
Bwembwela <i>Dep.</i>	10.53	..	14.43
Kihuhwi <i>Dep.</i>	11.22	..	15.12
Mnyusi <i>Dep.</i>	12.13	..	15.57
KOROGWE <i>Arr.</i>	12.58	..	16.42
.. . . . <i>Dep.</i>	..	13.35	17.02
Ngombezi <i>Dep.</i>	..	14.13	17.35
Maurui <i>Dep.</i>	..	14.45	18.07
Makuyuni <i>Dep.</i>	..	15.40	19.02
MOMBO <i>Arr.</i>	..	16.26	19.48
(For Lushoto) <i>Dep.</i>	..	16.46	20.08
Masinde <i>Dep.</i>	..	17.30	20.52
Mkumbara <i>Dep.</i>	..	17.56	21.13
Mkomasi <i>Dep.</i>	..	18.47	22.04
BUIKO <i>Arr.</i>	..	19.10	22.27
.. . . . <i>Dep.</i>	..	..	22.42
Hedaru <i>Dep.</i>	..	..	23.57
			Thursday & Sunday
Makanya <i>Dep.</i>	..	..	0.54
Same <i>Dep.</i>	..	..	2.34
Lembeni <i>Dep.</i>	..	..	4.29
Kisangiro <i>Dep.</i>	..	..	5.17
Kahe Junction <i>Dep.</i>	..	..	6.02
Rau River <i>Dep.</i>	..	..	6.39
MOSHI <i>Arr.</i>	..	..	7.06
			Thursday
KENYA AND UGANDA RAILWAY			8.00
MOSHI <i>Dep.</i>	..	..	Friday
Mombasa <i>Arr.</i>	..	..	8.10
NAIROBI <i>Arr.</i>	..	..	10.31

This narrow gauge line (60 centimetres) originally ran from Mingoyo, sixteen miles from the port of Lindi, to Mtua, a distance of eighteen miles. During the war it was extended by the military authorities four and a half miles northwards to Lindi, and from Mtua through Ndanda to Masasi, making a total length of eighty-five miles. In 1922 the line was

The Lindi
tramway.

worked by motor units, and in 1923 by steam locomotives. Since 1924 it has been worked under the control of the District Officer, Lindi, the vehicles being propelled by man-power. The future of this tramway is now being considered by the Government of the Territory.

Projected
branch lines.

The construction of a line from Manyoni to Singida and thence to Kinyangiri, at the foot of the Iramba plateau, has been sanctioned, and work will be put in hand in 1930, the rolling stock and material being already on order. The line will leave the Central Railway at Manyoni (586 kilometres distant from Dar es Salaam) near the summit of the Saranda escarpment and will run in a northerly direction to Kinyangiri, some hundred and fifty kilometres from the main line. It will tap a rich country, with a native population of about 360,000. Construction should be completed in two years from the date of commencement.

A line from Sanya, on the recently opened Moshi-Arusha branch line, to Engare Nairobi in the Moshi district has been sanctioned and surveyed. It will run in a northerly direction through a fertile farming area for an approximate distance of 48 kilometres.

The construction of a line from Dodoma to Iringa and thence to the borders of Northern Rhodesia is under consideration. Preliminary surveys have been made.

Joint travel
by railway
and lake
steamers
in Kenya,
Uganda and
Tanganyika.

To facilitate tourist travel, the Kenya and Uganda Railways and Harbours and the Tanganyika Railways Administration have introduced a series of extended circular tours, enabling tourists to obtain through tickets covering any chosen itinerary through Kenya, Uganda and Tanganyika at a specially reduced fare based on the total mileage, less 25 per cent. Particulars of these tours may be obtained from the Railways Administration. The introduction of these special facilities covering the two systems, both serving wide territories with a combined rail and steamer route mileage of approximately 5,810 miles, enables the tourist thoroughly to explore portions of a continent which thirty years ago were *terra incognita*.

This new, and as yet, almost virgin field of tourist travel through primitive countries, but under healthy and modern

conditions, contains a wealth of interest for the sportsman, collector and scientist, and native life, big game, plantations and scenic beauty contribute to the fascination exercised by these new countries over the new-comer.

Tanganyika is an excellent centre from which to travel overland to Cairo, or the Cape, or to the West Coast of Africa, and whereas a few years ago such journeys were not to be undertaken lightly or without due preparation, they can now be made in a great degree of comfort.

The tables on pages 320 and 321 show the various routes by which these journeys can be undertaken, the approximate distances, fares and the time taken on them, and the cost involved. Any further particulars which are required can be obtained from the Traffic Manager, Tanganyika Railways, Dar es Salaam, or from the principal tourist agencies both in England and abroad.

Thomas Cook and Sons (all branches).

Japp, Hatch and Company, 166 Piccadilly, London, W.1.

Bennett's Travel Bureau Limited, Oslo, Norway.

American Express Company, Incorporated, 65 Broadway, New York, U.S.A.

Motor Tours Limited, Nairobi.

Compagnie Fonciere du Katanga, Elisabethville, Belgian Congo.

The South African Railways and Harbours, Tourist and Travel Branch.

Agents for
issue of
passenger
tickets.

The charges for catering on passenger trains and on the T.R.S. *Liemba* are as follows: Miscellaneous information.

	1st Class and 2nd Class.	
Breakfast	Shs. 3/00	Catering charges.
Lunch	3/00	
Tea, pot of	-/50	
Morning tea, cup	-/25	
Tea, with biscuits or toast	1/00	
Dinner	4/00	
Inclusive tariff, per day	10/00	

Children under ten years of age are charged half-rates.

Apart from East African notes and currency, English Currency. currency notes, Bank of England notes, English coinage, South African notes and South African coinage tendered in

TANGANYIKA TO CAIRO VIA THE NILE

The journey from Tanganyika to Cairo via the Nile can be made by two routes, the first being available from mid-December to April, and the second at other seasons of the year, as follows.

ROUTE I

		Miles.	First-class Fare.	Time taken.
Dar es Salaam to Mwanza	Tanganyika Railways	758	£10 19 7	2 days
Mwanza to Jinja	Kenya-Uganda Railways Lake Steamer across Lake Victoria Nyanza	348	4 11 10	5 "
Jinja to Namasegali	Kenya-Uganda Railways	61	0 16 6	1 day
Namasegali to Masindi Port	Kenya-Uganda Railways Lake Steamer across Lake Koga	106	1 8 7	1 "
Masindi Port to Butiaba	Uganda Government Motor Lorry	75	1 0 4	1 "
Butiaba to Nimule	Kenya and Uganda Railways Lake Steamer across Lake Albert Nyanza	200	2 13 5	1 day
Nimule to Juba (Rejaf)	Sudan Government Motor Lorry	104	8 4 1	1 day
Juba (Rejaf) to Khartoum	Sudan Government Steamer down the Nile	1,096	30 3 0 (catering charges about 19/- per day)	9 days
Khartoum to Halfa	Sudan Railways		14 2 11	
Halfa to Shellal	Sudan Government Steamer		(catering charges about 19/- per day)	3 "
Shellal to Cairo	Egyptian State Railways	1,134	3 14 9 (catering 11/- per day)	1 day

ROUTE II

Dar es Salaam to Mwanza	Tanganyika Railways	758	£10 19 7	2 days
Mwanza to Entebbe	Kenya-Uganda Railways Lake Steamer	243	3 4 6	2 "
Entebbe to Kampala	Motor car	25	0 15 0	"
Kampala—Jinja—Tororo—Soroti—Kitgum—Fort—Juba (Rejaf)	Motor car. Transport arranged by Motor Tours, Limited, Nairobi	617	32 10 0 (including transport, hotel, rest house, board and lodging)	5 days
Juba (Rejaf) to Khartoum	Sudan Government Steamer down the Nile	1,096	30 3 0 (catering charges about 16/- per day)	9 "
Khartoum to Halfa	Sudan Railways		14 2 11	
Halfa to Shellal	Sudan Government Steamer		(catering charges about 16/- per day)	3 "
Shellal to Cairo	Egyptian State Railways	1,134	3 14 9 (catering 11/- per day)	1 day

The approximate cost from Dar es Salaam to Cairo by these routes would be £110 by Route I and £180 by Route II respectively, including fares and food.

TANGANYIKA TO CAPE TOWN VIA THE BELGIAN CONGO AND RHODESIA

The journey from Tanganyika to Cape Town can be made as follows:

	Miles.	First-class Fare.	Time taken.
Dar es Salaam to Kigoma	774	£11 4 2	2 days
Kigoma to Albertville	81	0 14 3	1 day
Albertville to Kabalo	170	1 17 1	1 "
Kabalo to Bukama	351	3 0 0	4 days
Bukama—Elizabéthville—Frontière	443	3 5 11	} 8 "
Frontière—Bulawayo—Mafeking—Kimberley—Cape Town.	2,149	17 9 0	

Belra, Mashonaland and Rhodesia Railways and South African Railways.

The cost of this journey, including fares, and food estimated at an average cost of 18/- a day, would be in the neighbourhood of £80.

TANGANYIKA TO MATADI ON THE WEST COAST

The journey can be made as follows:

	Miles.	First-class Fare.	Time taken.
Dar es Salaam to Kigoma	774	£11 4 2	2 days
Kigoma to Albertville	81	0 14 3	1 day
Albertville to Kabalo	170	1 17 1	1 "
Kabalo to Kongolo	47	0 9 2	1 "
Kongolo to Kindu	221	2 7 11	1 "
Kindu to Ponthierville	190	1 11 6	1 "
Ponthierville to Stanleyville	78	0 17 6	1 "
Stanleyville to Matadi	994	7 5 8	16 days

Tanganyika Railways
Chemin de Fer des Grand Lacs (Steamer)
Grand Lacs Railway
Grand Lacs Steamer
Grand Lacs Railway
Grand Lacs Boat and Rail
Grand Lacs Railway
River Congo Steamer to Leopoldville and thence by train to Matadi.

The approximate cost of this journey, including fares, and food estimated at an average cost of 18/- a day, would be £80.

payment of fares and baggage charges due to the Tanganyika Railways Administration will be accepted. For the present no commission charge is made on English currency notes, Bank of England notes or South African notes, but on all English and South African coinage a commission charge of two and a half per cent must be paid.

Excursion
tickets for
steamer
passengers.

Excursion tickets, available for ten days, are issued in connexion with steamers calling at Tanga, for the convenience of passengers wishing to take advantage of a trip to Nairobi and Mombasa during the time their steamer remains in Tanga Harbour. These tickets are also available for passengers who are travelling from a place overseas and are booked through to a port other than Tanga, but do not necessarily continue their journey by the same steamer.

Excursion tickets are also issued for the trips—

	1st Class. Shs.	2nd Class. Shs.
Tanga to Mombasa via Moshi and Voi, and vice versa	100	60
Tanga to Mombasa via Moshi, Voi and Nairobi, and vice versa	160	100

Tickets are available from the date of issue to the date of the departure of the steamer from Tanga or Kilindini, and are issued only on production of the necessary certificate, which is obtainable at Tanga from the Traffic Superintendent, or at Kilindini Harbour from the District Traffic Superintendent's Office, Kenya and Uganda Railway.

Luggage.

The free allowance of luggage which may be carried on the Tanganyika Railways is as follows:

First-class passenger . . .	154 lbs. per head.
Second-class passenger . . .	88 lbs. per head.
Third-class passenger . . .	42 lbs. per head.

Reserved
saloons.

First-class saloons fitted with kitchen accommodation may, on application to and at the discretion of the Administration, be reserved, when available, for distances exceeding one hundred kilometres, and for the period occupied by a single direct journey, upon payment of the charges shown hereunder:

Four-wheeled saloon, first class: Sh.1 per kilometre.

Bogie or eight-wheeled saloon, first class: Shs.1/50 per kilometre.



ESCARPMENT ON THE DODOMA-IRINGA ROAD



THE OLD BRIDGE OVER THE RUVU RIVER; MIKESSE-KISSAKI ROAD
Now replaced by a permanent structure

These charges are in addition to the ordinary fares of the passengers who travel. Third-class fares must be paid in respect of servants.

When a reserved saloon is detached at a station *en route* for the convenience of the occupants, or is kept in use by them after arrival at the destination station, an additional charge of one shilling per hour or part thereof per four-wheeled saloon, and of two shillings per hour or part thereof per bogie or eight-wheeled saloon, will be levied in respect of the time during which the saloon stands at a station.

(d) ROADS AND MOTOR TRANSPORT

The roads of Tanganyika Territory, from the standpoint General. of the motorist, are, with few exceptions, the product of the war and post-war periods. War time exigencies demanded the rapid construction, regardless of cost and with little time for detailed survey, of lines of communication for the transport of stores and guns, and many of these developed into the present-day system of main roads. Hence there will be found much to criticize in the grading and alignment of such roads, as a vast amount of work which, paid for at present rates, would probably run into hundreds of thousands of pounds, has been put into escarpments which, surveyed in the more leisurely days of peace, would have been set out on easier grades suitable for commercial uses by modern medium-weight lorries, and into earthworks and banks which, on more careful examination, would possibly have been avoided by detours. A grade up an escarpment of, say, one in ten cannot be improved into a grade of one in fifteen, but has to be abandoned and a new line taken. Hence the road engineer to-day is often confronted with the problem whether his limited resources will permit him to do as he would wish and face the heavy expense of a new line, or whether the existing steep grades must be tinkered into some slight improvement, and his funds spent on much-needed bridges, culverts and drainage elsewhere.

Demands for access by motor transport to the most remote districts are more and more insistent, and to open up a

country the size of Tanganyika requires more than a few thousands or even hundreds of thousands of pounds. Modern motor roads as built in Europe are out of the question for many years to come, as it will tax the resources of the country to the utmost to provide for bridges, causeways, drifts and embankments sufficient to render the main roads reasonably suitable for light and medium-weight lorries during all but the heaviest months of rain.

Formerly, the majority of roads were constructed by unpaid or scantily paid labour, so that it was then of little consequence if the services of a skilled surveyor were not available to ensure correct alignment. Modern policy has altered this, as all labour employed on main trunk roads is now paid for at local market rates and fed to a scale laid down by Government. Compulsory labour may only be resorted to in circumstances in which, without it, valuable works would be endangered or where interruption to important lines of communication is threatened, and then only with express sanction from the Governor. The cost, therefore, of road maintenance to-day is heavy, while maintenance gangs can with difficulty be kept up to strength at times such as the planting season, when the roads require most attention. Without continual supervision, too, the African is a leisurely worker, and the problem of getting a reasonable amount of work from small gangs of natives strung out over hundreds of miles of roads is one which the road supervisors find it difficult to solve.

Classification
of roads.

Existing roads, exclusive of township roads and local roads, are classified as:

- (1) Main roads, with a total mileage of 2,463 miles.
- (2) District roads, Grade A, maintained by the Public Works Department, with a total mileage of 795 miles.
- (3) District roads, Grade B, maintained by the Administration, with a total mileage of 8,970 miles.

The classification, so far as main roads and Grade A district roads is concerned, implies, however, rather the lines of future development than any great difference in the quality of road surfaces. Certain sections of many main roads, for

instance, are still unprovided with anything but bush pole bridges, and are incompletely drained. On the other hand, some of the district roads in thickly populated areas are of a higher standard. The general policy is to provide the main roads with permanent bridges up to a ten-ton standard and with a good and permanent culvert and drainage system, and to leave the district roads, for the present at any rate, with temporary bridges of timber. Both main and district roads are mostly earth roads unsurfaced, which are not suitable for transport in dry weather, and there are no macadam roads except in townships. The motor transport of the country is carried out with one-ton, thirty-cwt. and two-ton lorries, the last mentioned being considered the limit of capacity of an earth road for a four-wheel vehicle, though heavier vehicles of the six-wheel type can be used on certain roads which are bridged to the higher standard.

On the Grade B district roads the bridges are mostly built of light poles, which are liable to destruction by flood, termites or decay, and require frequent renewal. Visitors to the country, taking heavy vehicles with them, should make a point of consulting the local administrative officer or engineers in order to obtain the latest information regarding the route by which they propose to travel. This is, in any case, a wise precaution on the part of strangers, whatever the road may be, especially during the rains, as the torrential tropical rains are capable of destroying the stoutest bridge or culvert.

In the rainy season the roads are closed to lorry traffic for periods varying from one to three months during the worst incidence of the rains. No definite period of closure can be fixed, as climatic conditions vary so much, not only according to locality, but from year to year; but in most parts of the country the rains fall most heavily from mid-November to May, so that the closure is sometimes applied during the light rains at the end of November for a fortnight or three weeks, and again when the heavy rains break in February or March. Touring cars are not prohibited from using the roads in the close season, but during the rains they should be provided with chains, a light axe and a native type hoe. A short length of rope is useful at times in case the car becomes

Closing of
roads to
motor lorries.

bogged, as native assistance is rough on wings, lamp brackets or any other accessory upon which a purchase can be got for pushing.

It must not be gathered, however, that trouble on the road is always to be anticipated, as in the dry season motoring can be enjoyed over some thousands of miles of road without discomfort and with little fear of difficulties due to climatic conditions.

Expenditure
on roads and
bridges.

The following tables show the sums spent annually on maintenance, including labour but excluding the cost of the staff of the Public Works Department, and also the sums spent on construction. Sums spent by native administrations on local roads are not included:

(a) MAINTENANCE

1924-25	£30,703
1925-26	30,399
1926-27	31,631
1927-28	32,116
1928-29	41,684
1929-30 (approximate)	49,000
1930-31 (estimated)	67,386

(b) NEW CONSTRUCTION

	From Loans.	From Revenue.	Total.
1924-25	..	£14,041	£14,041
1925-26	..	21,878	21,878
1926-27	£35,879	21,562	57,441
1927-28	24,778	39,450	64,228
1928-29	36,074	24,306	60,380
1929-30 (approximate)	50,000	70,000	120,000
1930-31 (estimated)	117,529	33,200	150,729

Main roads.

Main thoroughfares connect:

- (1) Dar es Salaam with the Tanga area via Morogoro, Handeni and Korogwe.
- (2) Tanga with the Kenya system via Moa.
- (3) North-east Rhodesia and Nyasa with the Kenya system via Iringa, Dodoma, Kondoa-Irangi and Arusha.
- (4) Iringa and the southern area with Tanga, via Kilosa and Korogwe.

- (5) Tabora with Mwanza and, via Tinde and Kahama, with Bukoba.
- (6) Lindi with Mahenge and Songea.

These routes are interconnected by various district roads, so that it is possible to reach practically any part of the country by car. Short descriptions of the various main roads are given below. The railway has been taken as the origin for computing distances, or, in the case of those roads which do not touch the railway, the town or administrative station from which they commence, but, owing to improvements and diversions which are constantly being carried out, the mileages shown may not in all cases be found quite correct.

DAR ES SALAAM TO MOROGORO. Total distance, 138·5 miles.

This route has been cut through and is passable for cars in the dry weather. The construction of bridges and the improvement of grades are still in progress. The first thirty miles runs through the Pugu Hills to the village of Kola, where the branch to Maneromango and Utete turns off. From this point the road drops through undulating country, dry and sparsely wooded, to the Ruvu valley. The Ruvu River is crossed by a pontoon. From the Ruvu River the route runs through comparatively flat, open bush country to the Ngerengere River at mile 78·8. Elephants are sometimes met with in this section. From the Ngerengere River similar country is met with as far as the Ngerengere sisal plantation at mile 104. From this point to the junction with the Mikesse-Kissaki road the country is broken and hilly, but a good, hard surface is obtained. The remainder of the route is through cultivated country at the foot of the Uluguru Mountains.

For report and profiles, see Appendix IV. (Fig. 1).

KILOSA TO TANGA. Total distance, 244 miles.

This road is a continuation of the road from Iringa, forming a connecting link between the southern area, the Central Railway and the Tanga Railway, which it joins at Korogwe. It is extensively used by labour from the south of the Territory proceeding to the Tanga plantations. A number of the

timber bridges built during the war still exist, but are being gradually replaced.

The first section (Kilosa to Handeni) passes through well-wooded, undulating country containing a number of fairly large rivers. Native cultivation is extensive in parts, especially in the areas round Rudewa and Turiani where a considerable amount of cotton is grown. The gradients are easy, and in dry weather the surface is good. A number of black cotton soil swamps render transport difficult during the rains and, at times, impossible. Tsetse fly is prevalent in parts. Handeni, which is reached at mile 140, is a small administrative centre with the usual Indian bazaar. From here to Korogwe the road passes through undulating, open country, fairly well wooded in places. Water is scarce in the dry weather. The surface is good and the grades are easy. At Korogwe the Tanga Railway is reached, and from thence to Tanga the route follows the railway. The country is somewhat broken as far as Muhesa, but gradually flattens out as it meets the coast. European plantations and native cultivation are met with most of the way.

For report and profiles, see Appendix IV. (Figs. 2 and 3).

TANGA TO PANGANI. Total distance, 29 miles.

A coast road running south from Tanga through flat country. The Mtangata Creek at mile 11 is crossed by a pontoon; thence to Dahali River at mile 20 and Pangani the grades are easy. This route will eventually be joined up with Dar es Salaam.

For report and profile, see Appendix IV. (Fig. 3).

KOROGWE TO MOSHI. Total distance, 193 miles.

This road forms a portion of the road joining Tanga with the Northern Province. For the greater portion of the way it follows generally the same direction as the railway, which it crosses several times. The first section to Mombo presents no difficulties except during the wet weather, when the low-lying, black cotton soil pans make transport by no means easy, the section between miles 23 and 24 being the worst in this respect. From Mombo, where the road to Lushoto branches,

the route continues at the foot of the Pare Mountains over gently undulating country following the valley of the Mkomasi River, a tributary of the Pangani. From Mkomasi to Same an old German road on excellent soil is traversed. The soil remains good to Lembeni. From Lembeni the road drops to Kisangiro, thence the alignment crosses the line of drainage from the contiguous mountains, and is in need of improvement. From Kisangiro onwards the valley between Kilimanjaro and the north Pare Mountains is crossed. The road is on fairly good soil, although the alignment is somewhat circuitous, while the bridges are mostly of a temporary nature. At Himo the main road from Moshi to Taveta is joined, and the route described on Fig. 12 of Appendix IV. is followed. The road from Mombo to Himo is not a main road, but during dry weather provides quite a good motor route.

For report and profiles, see Appendix IV. (Fig. 4).

TANGA TO MOA AND THE KENYA BORDER. Total distance, 42 miles.

Running almost due north, this road follows the coast line until it reaches Kilula Hill near Moa, where it turns inland in a westerly direction for some ten miles and thence goes north again to the border. The Sigi River (mile 5) is crossed by the longest single-span road bridge in the Territory. This bridge, which is 171 feet between the bearings, was completed in 1929. All bridges and culverts on the road are of a permanent type, and drifts where they exist have been built up and concreted. The road surface generally consists of good, firm red soil. For the first thirteen miles out of Tanga the road is hilly, near Moa it is flat and sandy until the Mbululi River is reached at mile 30, when the country again becomes hilly and undulating.

For report and profiles, see Appendix IV. (Fig. 5).

DODOMA TO IRINGA AND MWENZO, AND DODOMA TO ARUSHA AND KENYA.

This is the main thoroughfare through Tanganyika Territory, forming a portion of the "Great North Road" and

linking up the Territory with Northern Rhodesia and Nyasa on the south and with Kenya on the north. For convenience, it has been divided into the following sections:

(1) Dodoma to Iringa . . .	160 miles.
(2) Iringa to Igawa . . .	160 miles.
(3) Igawa to Mwenzo . . .	156 miles.
(4) Dodoma to Arusha . . .	272 miles.
(5) Arusha to the Kenya Border . . .	72 miles.

DODOMA TO IRINGA AND MWENZO. Total distance, 476 miles.

The road runs through flat and sandy country covered with light bush and crossed by a number of sandy streams which are dry for the greater part of the year. A small range of rocky hills is passed between miles 34-45; thence the road descends into the valley of the Ruaha River, which, at mile 85, is crossed by a steel bridge consisting of two spans of 130 feet, each with two approach spans. After leaving the river valley, the route runs through hilly country and crosses a rocky escarpment at mile 126, where fine views over the surrounding country are obtainable. The curves on the escarpment are sharp, but the grades are not too severe. The remainder of the way to Iringa is through light forest and bush, gradually rising, but without any severe grades. Water is scarce on the whole of this section during the dry weather. Iringa is reached at mile 161.

From Iringa to Igawa the route continues through broken country to mile 40, where it rises to more open rolling grasslands which reach an altitude of 6,500 feet above sea level; it then drops to a ridge which is followed for twenty miles, and then runs through more hilly country, thinly wooded, to the Mbarali River at Igawa. From Igawa a deviation is at present under construction to avoid the Bohoro Flats, a stretch some ten miles long, which is totally covered by water during the rains. The country is hilly and intersected by numerous streams. Three large rivers, the Mbarali, Kimani and Ruaha, are crossed between Igawa and Mufumbi. The surface material is, on the whole, good, and the country somewhat less hilly as Ilongo is reached, light bush and



CROSSING THE RUAHA : OLD STYLE
Dodoma-Iringa Road



THE NEW BRIDGE OVER THE RUAHA
Dodoma-Iringa Road

thorn shrub predominating. After passing through flat, swampy country for seven miles, the road climbs up to the Mbeya saddle, reaching an altitude of 6,000 feet. There the country becomes open grassland, with the wooded heights of the Poroto Mountains and Rungwe Mountain in the distance. A gradual descent through hilly country and another steep rise with stiff grades occur before Mbosi is reached at mile 124. From Mbosi the line follows the watershed for some distance, and, crossing two river valleys, reaches Tundumo on the Rhodesian border, where it connects with the road to Abercorn and Mpulungu at the southern end of Lake Tanganyika. Arrangements have been made for the reconstruction of the whole of this section, which at present is only fit for light motor traffic.

For report and profiles, see Appendix IV. (Figs. 6, 7, 8).

DODOMA TO ARUSHA AND KENYA. Total distance, 344 miles.

This road is the continuation northwards of the "Great North Road" from Mwenzo on the Rhodesian border via Iringa. The first section to Kondoa-Irangi runs through flat, arid country for the first forty miles. It then enters the Chenene Hills, a small rocky range covered with thin forest. From there to the Karema River, at mile 84, flat bush country is met with. The sandy bed of the Karema, which is dry except during the rain, is crossed by a concrete drift, water being generally obtainable from water-holes in the sand. The remainder of the distance to Kondoa consists of broken country, much wooded and intersected by numerous gulleys. The main road turns off to the right two miles before reaching Kondoa, and crosses two rivers before reaching Kolo village. All the rivers in the district are dry sandy beds, except during the rains. From Kolo the road climbs over rough, broken country to the top of Pienaar's Heights, where some steep curves and sharp grades are encountered, falling to the village of Babati at mile 68. From this point the road is being resurveyed, and the whole section will be reconstructed. Arusha is reached at mile 170. From Arusha to Namanga on the Kenya border the route continues over a district road, of which the first portion runs through open,

hilly grasslands. It then levels to a flat plain and enters more hilly and sparsely wooded country before reaching the border.

For report and profiles, see Appendix IV. (Figs. 9, 10, 11).

ARUSHA TO MOSHI AND TAVETA. Total distance, 75 miles.

Running across the general drainage area from Mount Meru for the first portion and, thereafter, over that of Kilimanjaro, the road crosses a succession of small valleys, with the exception of the flat Sanya Plains which divide the two mountains. The general grade is downwards, the total fall from Arusha to the border being nearly 2,000 feet. For a distance of fifteen miles from Arusha, red earth and gravel, with patches of black cotton soil, are met with. A good, hard surface is obtained in the hills which drop to the Sanya Plains. The plains themselves consist of boulders and volcanic ash, and from their eastern end to Moshi red earth is encountered. The country traversed is largely occupied by European plantations, and the considerable traffic on the road renders it dusty in dry weather and soft and muddy in the wet. From Moshi to Taveta, a few miles on the other side of the Kenya border, the road follows the foothills of Kilimanjaro through open undulating country. Water is obtainable in most of the rivers all the year round.

For report and profiles, see Appendix IV. (Fig. 12).

KILOSA TO IRINGA. Total distance, 158 miles.

The road joins at Kilosa with the road to Korogwe and Tanga. From Kilosa it runs through flat, cultivated lands to Uleia, at which point a branch continues to Ifakara, an important trading centre. The Kilosa-Iringa road forks to the right and runs through broken country for twenty miles, eventually crossing the mountains which form the north side of the Ruaha Valley by the Elton Pass. The top of the pass is reached at mile 54. The grades are easy, but the curves are sharp. Beautiful views over the surrounding country are obtained. The descent to the Ruaha River is easy. The river is crossed by a temporary low level bridge in dry weather, but is not passable during the rains. From the Ruaha River the route runs for thirty miles through undulating country

which is fairly well populated in parts, and then commences the ascent of the Kitonga Hills, a rocky, wood-covered range. The grades are steep in places, but are easily negotiable by motor car. From the foot of the Kitonga Pass the road runs through open undulating country with a constant up-grade to the foot of a steep hill to Iringa Township.

For report and profiles, see Appendix IV. (Fig. 13).

TABORA TO MWANZA. Total distance, 204 miles.

Before the construction of the railway, this route formed the only connecting link between Tabora, on the Central Railway, and the Mwanza and Bukoba Provinces. In dry weather the surface of the road is good throughout and the grades are easy. The first portion traverses native cultivated areas and fairly open country; it then enters bush and forest country, which continues up to mile 60. Tsetse flies are prevalent in this section at most times of the year. Near the administrative station of Nzega the country is open grassland which changes to thin scrub and bush until the Manyonga River is crossed. For several miles on each side of the Manyonga River the country is fairly flat and swampy, and impossible to traverse during the heavy rains. From the Manyonga it rises through open country to Tinde, and from there to Shinyanga the going is easy on a good surface through open country. The Mhumbo River and the remaining rivers between Shinyanga and Mwanza are crossed by drifts. The route continues through open, undulating country with easy grades and a good surface. In wet weather the river crossings and the black cotton soil swamps at Seke and Ilula make transport difficult and, at times, impossible.

For report and profiles, see Appendix IV. (Figs. 14 and 15).

TINDE TO KAHAMA, TO BIHARAMULO AND BUKOBA. Total distance, 308 miles.

Joining the Tabora-Mwanza road at Tinde, this road runs in an easterly direction, crosses the railway at Isaka and traverses fairly open, flat country until it drops to low, flat swampy country at mile 31. It subsequently climbs through light forest land to Kahama, a small administrative station,

which is the centre of the sleeping-sickness campaign. The grades and surface are good, but water is scarce in the dry season from Isaka to Kahama. Leaving Kahama, the route takes a north-easterly course to Ushirombo through undulating country, covered at first with bush and, subsequently, with forest. From Ushirombo to Nyatakara forest land continues and a series of black cotton soil swamps render transport impossible in wet weather. Tsetse fly is prevalent throughout and bad in some parts, while water is scarce in the dry season.

From Nyatakara to Biharamulo the country is more open and hilly, and native villages become more frequent. The grades are easy for the whole distance. The village of Biharamulo is about a mile off the road, the Government offices and houses being situated on a hill a mile from the village.

From Biharamulo the route continues in a northerly direction through broken country covered with bush and forest of varying density, containing tsetse fly belts. At Nyamishere a swamp about five miles long is crossed, and the road then negotiates a long up-grade to Kitunda. From here the country assumes a more open aspect and native cultivation and coffee plantations are met with continuously. The country is hilly and the grades steep in many places, but a good hard surface prevails the whole way.

For report and profiles, see Appendix IV. (Figs. 16, 17, 18).

BUKOKA TO THE UGANDA BORDER. Total distance, 53 miles.

This road leaves the Bukoba-Biharamulo road at mile 2, and running through open, undulating country crosses a steep rise to Katoma before dropping sharply to the valley of the Ngono and Kagera Rivers. It then follows the foothills as far as mile 18, where it traverses a swampy plain to the Ngono River, which is crossed by a timber bridge at mile 22. The Kagera River at mile 35 is crossed by a pontoon. After leaving the Kagera, the route turns north, crossing several large swamps before entering more undulating country, through which the route continues to the Uganda boundary.

For report and profiles, see Appendix IV. (Fig. 19).

LINDI TO TUNDURU AND SONGEA. Total distance, 380 miles.

Running in a westerly direction from Songea, roughly parallel with the Portuguese border, this road connects the Province of Mahenge with the port of Lindi, and forms the main transport route for the evacuation of all produce in the southern area. A road from the terminus at Songea runs to Manda Bay on Lake Nyasa. The first portion of the road from Lindi runs through the fertile valley of the Lukuledi River. After Masasi (mile 95) is passed the country is sparsely populated until near the administrative station of Tunduru, 215 miles from Lindi. The remainder of the route runs through broken country which, on the whole, is well wooded and watered. Long stretches of the road run on ridges which divide the various watersheds. The soil is of a light, sandy nature which, in some parts, entails a loose surface during the dry weather, especially between Lindi and Mahiwa and near Tunduru. The gradients are fairly long on the first portion, but steep inclines are met with at the river crossings and also on the section between Tunduru and the junction of the road to Mahenge. The maximum elevation reached on this road is 4,047 feet.

For report and profiles, see Appendix IV. (Figs. 20, 21 and 22).

There are 9,765 miles of roads classified as district roads, the whole of which are maintained by the Administration, with the exception of seven hundred and ninety-five miles maintained by the Public Works Department. In addition to these district roads, there are many miles of tracks kept up by native administrations which serve the native areas exclusively. District roads are, in dry weather, suitable, as a rule, for light motor traffic, and some of the more important carry a heavy lorry traffic during certain seasons of the year. A list of the district roads in each Province, with their mileage, is given in Appendix V.

MOTOR TRANSPORT

The rapid development of mechanical transport in Tanganyika is shown by the following statistics of imports for the last five years:

Value of cars,
lorries, and
bicycles
imported.

1925.					1926.			
	No.	Value.	From British Possessions.	From Other Countries.	No.	Value.	From British Possessions.	From Other Countries.
Touring cars	139	£25,830	£14,678	£11,152	208	£37,713	£13,718	£23,995
Lorries	230	46,506	29,239	17,267	296	63,079	18,236	44,843
Bicycles	244	12,058	10,410	1,648	239	11,725	10,336	1,389

1927.					1928.			
	No.	Value.	From British Possessions.	From Other Countries.	No.	Value.	From British Possessions.	From Other Countries.
Touring cars	305	£53,324	£24,578	£28,746	350	£54,416	£19,370	£35,046
Lorries	450	74,036	21,519	52,517	500	75,854	12,052	63,802
Bicycles	238	10,220	9,249	971	183	7,012	6,189	823

1929.				
	No.	Value.	From British Possessions.	From Other Countries.
Touring cars	562	£72,086	£40,490	£31,596
Lorries	766	106,511	45,480	61,031
Bicycles	210	8,180	6,845	1,335

Out of a total import value of £658,550 for the five years 1925 to 1929 inclusive, the value of motor cars, lorries and bicycles imported from British Possessions totalled £189,574, and of this figure some £43,000 is accounted for by motor bicycles, which are nearly all British made.

The relatively cheap and high-powered American car predominates through the country.

Motor
taxation.

The cost of motor licences is low, that for a solo motor cycle being Shs.20 a year; for a motor cycle and side-car Shs.30; for a touring car, the weight of which does not exceed 20 cwt., Shs.60; for cars weighing between 20 and 30 cwt., Shs.100. Lorries which are used solely for the conveyance of goods in the course of trade or agriculture and do not exceed six tons in weight are free. Fuller details of motor-car taxation are given in Chapter VII.

Petrol.

Petrol, on the other hand, is an important item in the motorists' budget, as it costs over Shs.2/50 a gallon at the coast and increases in price in up-country stations according to their distance from the coast or the railway. The price of

petrol per case of eight gallons at various stations in the Territory during 1929 was as follows:

	Shs.		Shs.
Dar es Salaam . . .	21.50	Arusha . . .	24.00
Tanga . . .	21.50	Moshi . . .	22.20
Dodoma . . .	22.60	Bukoba . . .	24.80
Tabora . . .	27.00	Iringa . . .	27.00
Kigoma . . .	27.50	Mbeya . . .	60.00
Mwanza . . .	25.30	Tukuyu . . .	60.00
Lindi . . .	22.50		

Those intending to tour by motor car in Tanganyika, or in East Africa generally, would do well to communicate with the Royal East African Automobile Association, P.O. Box 87, Nairobi (Telegraphic Address: Royalauto), a body which has done much valuable work in connexion with the development of motor traffic in East Africa. Local branches of the Association have been formed at Dar es Salaam, Arusha, Bukoba, Moshi, Mwanza and Tanga in Tanganyika, and any local inquiries should be addressed to the local Honorary Secretaries of these branches. The Association, which is affiliated with the principal automobile clubs at home and abroad, arranges for the planning of tours, for the issue of road and weather reports, the compilation of road maps and for the signposting of roads throughout East Africa. In several other ways it renders the utmost service to members. There is no entrance fee for membership of the Association, but an annual subscription of Shs.40 is payable by members who are car owners and of Shs.20 by members who do not own cars.

Any person desirous of travelling through two or more of the East African territories should obtain a tryptique in order that customs formalities and the requirements of the motor-traffic legislation in the different countries may be simplified. Tryptiques are issued by the Royal East African Automobile Association at Nairobi and Mombasa in Kenya, Kampala in Uganda, Zanzibar, and at Bukoba, Dar es Salaam, Moshi and Mwanza in Tanganyika. Tryptiques are issued free to members of the Royal East African Automobile Association, a charge of Shs.50 being made to non-members. A deposit

must be made with the Association sufficient to cover the highest customs duty leviable on the car, equipment, arms and ammunition in any of the countries to be passed through and mentioned in the tryptique. On arrival in any territory outside that in which the particular tryptique is issued, the tourist must report to the nearest customs or administrative officer and obtain a *visé*. On departure from that territory he must obtain a *visé* on the clearance form provided in the tryptique. The sum deposited is refunded to the tourist by the Association three months after his return, if during that period no claim has been made on the Association which guarantees to the Governments concerned any amounts in respect of customs duty for which the tourist is liable.

Motor trans-
port services.
Dodoma—
Tukuyu.

A regular service of motor lorries is run by the Southern Transport Company for the transport of passengers, mails, produce and stores from Dodoma to Iringa and Iringa to Tukuyu, a distance of three hundred and seventy-four miles in all.

The time table is as follows:

DODOMA TO TUKUYU

Leave Dodoma Thursday and Saturday mornings.

Arrive Iringa Thursday and Saturday nights.

Leave Iringa Saturday morning.

Arrive Malangali Saturday night, Mbeya on Sunday and Tukuyu on Sunday night.

TUKUYU TO DODOMA

Leave Tukuyu Monday afternoon.

Arrive Mbeya Tuesday morning, Malangali Tuesday afternoon, Iringa on Wednesday morning.

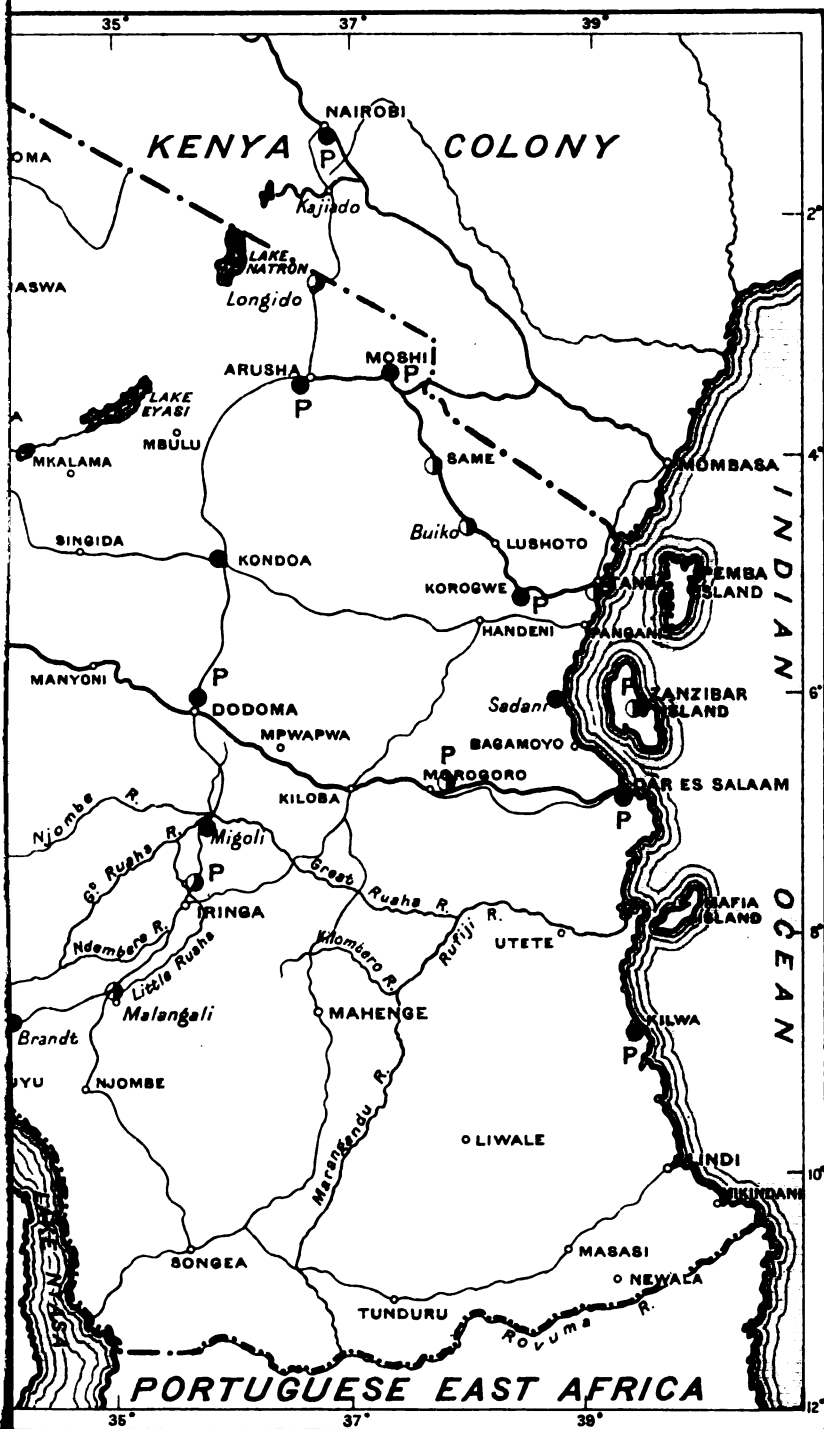
Leave Iringa Wednesday and Saturday mornings.

Arrive Dodoma Wednesday and Saturday evenings.

For the transport of goods and stores Sh.1 per ton mile is charged in the dry season from June to November, and Shs.1/15 per ton mile during the rest of the year.

Lindi—
Songea.

A regular service of motor lorries is run, when the roads are passable, between Lindi, Masasi, Tunduru and



Songea by the Tanganyika Transport Company, a distance of approximately three hundred and eighty miles. The contract rate for transport of Government stores is Shs.1/35 per ton mile, with an additional 65 cents per ton mile for the outward journey from Tunduru to Songea.

Motor transport services of varying regularity are maintained by private enterprise between Kilosa and Mahenge, a distance of one hundred and fifty-eight miles; between Dar es Salaam and Utete, a distance of one hundred and twelve miles; Dar es Salaam and Bagamoyo, a distance of forty-two miles; and Arusha and Moshi, a distance of fifty-three miles. Other services.

(e) AVIATION

The history of civil aviation in East Africa commenced with the landing at Tabora on 28th February, 1920, of a Vimy commercial aeroplane piloted by Captain S. Cockerell, A.F.C., and Captain F. Crossley Broome, D.F.C., A.F.C., with Dr. P. Chalmers-Mitchell, D.Sc., LL.D., F.R.S., in command. Since that date there have been many notable flights over East Africa carried out by machines flying between Cairo and the Cape.

To Mr. John Carbery, who brought out a machine to Kenya in 1927, belongs the credit of being the pioneer of flying within the East African group of territories. His example was soon followed by others, and in February, 1928, an aviation meeting was held at Nairobi, at which four machines were present. The Aero Club of East Africa was formed about the same time and, through the generosity of Lord Wakefield, it now possesses its own machine. In 1929 the Wilson Airways Company, Limited, was formed in East Africa and, at the time of writing, possesses two three-engined machines and one light aeroplane which are employed in carrying passengers to different parts of East Africa.

The Government of Tanganyika is believed to be the first British dependency to own an aeroplane. It purchased, at the end of 1928, an Avro-Avian biplane, which, in March, 1929, made its first flight over Dar es Salaam. Since that date the aeroplane has been employed on aerial photographic

duties. It is proposed during 1930 to increase the number of Government-owned machines. These will be used primarily for aerial surveys, but will also be available for carrying officials on duty, and also mails in cases of emergency.

The Imperial Air Navigation Orders in Council of 1922, 1927 and 1929 have been applied to the Territory, and Air Navigation Directions were issued in 1929 to supplement the provisions of the Order in Council of 1927. An Air Board to advise the Government in aviation matters has been appointed and consists of the Chief Secretary, the Attorney-General, the Director of Public Works, the Officer Commanding Troops, and the Postmaster-General, with the Director of Surveys, who has had practical flying experience, as Technical Advisory Officer.

In many respects flying conditions in the Territory are good. There are very few days in the year when flying is not possible during some portion of the twenty-four hours, and danger from mist or fog is negligible, except around the highlands of Arusha and Tukuyu. On the other hand, downward currents are frequently encountered in the neighbourhood of mountains and, especially, of escarpments, while the atmosphere lacks lifting power between 11 A.M. and 3 or 4 P.M. But these circumstances need not deter the aviator, provided that his machine possesses a good reserve of power and that he avoids the common practice of overloading. It must be borne in mind that the greater portion of the Territory lies at 3,500 feet above sea level, and that many parts of the country exceed 6,000 feet in elevation, so that the most suitable aircraft for flight in the Territory is, probably, the multi-engined machine which, with one engine out of operation and the remaining engine or engines running at normal power, can remain air-borne at about 7,000 feet above sea level. As the existing types that are capable of such a performance in tropical atmospheres are costly, the aviator whose means do not permit the purchase and maintenance of a machine costing several thousand pounds would be well advised to content himself with a light single-engined aircraft of not less than one hundred horsepower, with low landing speed. Such a machine, in the hands

of an experienced pilot, can probably be landed in almost any part of Africa without hurt to the occupants.

It is preferable to follow, as far as possible, recognized routes such as railways and roads, rather than to adhere too strictly to a compass course, as a forced landing in the bush far from any habitation or means of transport involves extreme discomfort, if not disaster, as well as the probable loss of the machine. The best period for aviation is from June to December, when the numerous swamps which are scattered over the face of the country are dried up and provide excellent forced landing-grounds.

A number of aerodromes have been, or are in the course of being, prepared, and it is anticipated that several more will shortly be constructed. A map showing aerodromes existing or proposed accompanies this chapter. Main roads frequently provide good forced landing-grounds for light aircraft, and in many places the ground on each side has been specially cleared and levelled in order to lessen the chance of damage to the wings of aircraft forced to land.

Petrol and oil can usually be obtained at the more important towns in the Territory, while at quite a number of them aviation spirit is available.

Travellers desiring information on questions of aviation in Tanganyika Territory should communicate with the Secretary of the Air Board, Dar es Salaam.

(f) POSTS AND TELEGRAPHS

Under the terms of the Mandate the Territory adheres to the Postal Union, the Telegraph and Radiotelegraphic Conventions. It is represented at the various congresses by the British Post Office.

Agreements governing the exchange of telegrams, mails, parcels and money orders have been concluded with various countries, comprising adjoining British and foreign administrations, Great Britain and certain other European countries, Egypt, India, Ceylon and Japan.

From Great Britain mails are dispatched weekly to connect with the Peninsular and Oriental Company's steamers sailing from Marseilles. These mails are transhipped at Aden for External mail communications.

conveyance to the Territory by the first steamer proceeding southward.

In addition, mails are dispatched fortnightly for conveyance from Marseilles direct to Dar es Salaam by steamers of the Messageries Maritimes, which also convey direct dispatches from France, Belgium, Switzerland and Germany.

The average time taken in transit by mails to Dar es Salaam from Great Britain is twenty-two days, although occasionally mails are received in eighteen days.

From India and South Africa regular fortnightly dispatches are conveyed by steamers of the British India Steam Navigation Company running on the Bombay-Durban service. Mails from Durban arrive at Dar es Salaam in about six to eight days while those from Bombay take from twelve to thirteen days.

From Japan a direct mail is received monthly.

A monthly service to and from Naples and Genoa is maintained by vessels of the Compagnia Transatlantica Italiana, and mails for Great Britain forwarded by this service arrive in London in twenty-one days.

Outgoing mails are less regular than incoming, but are dispatched by every available opportunity, vessels of no less than six European nations being utilized for the conveyance of mails to Europe.

Internal
mail com-
munications.

Internal mails are conveyed by rail, motor, lake steamers and runners, according to destination. Frequency of dispatch varies from weekly, in the case of runner services, to daily on certain sections of the Central Railway. There is a fortnightly service by lake steamers to the ports on Lakes Nyanza and Tanganyika.

Several places are served twice or thrice weekly and, generally speaking, the internal mail services are frequent and reliable.

Post Offices.

Business is conducted at one hundred and fifteen post offices or sub-post offices, staffed by the Posts and Telegraphs Department; or postal agencies managed by staff of other departments excluding the railways; and also at railway postal and telegraph agencies.

The nature of business transacted at the different classes of post offices is shown hereunder.

Head Post Offices are printed in capitals thus . ARUSHA.
 Sub-Post Offices are printed in heavy type thus . **Amani**.
 Postal Agencies are printed in small upright type thus UTETE.
 Railway Postal and Telegraph Agencies are printed in
 italics thus *Bahi*.

All offices are open for the sale of stamps, collection and delivery of ordinary and registered correspondence including parcels, and for the acceptance and delivery of telegrams and cablegrams except those denoted thus *, which indicates no telegraph service.

The following symbols indicate additional classes of business, viz.:

¶ = Full Postal Order, Money Order, Telegraph Money Order, Savings Bank, Insured Letters and Parcels, and Express Delivery Services.

§ = Full Postal Order Service and payment of Money Orders excluding Telegraph Money Orders.

† = Full Postal Order Service. Money Orders not paid.

† Amani	<i>Kidugallo</i>	<i>Malagarasi</i>
¶ ARUSHA	¶ KIGOMA	<i>Malampaka</i>
¶ BAGAMOYO	† Kigombe	† Malangali
<i>Bahi</i>	<i>Kihuhwi</i>	Manda
§ Biharamulo	† Kikale	<i>Mantare</i>
<i>Buiko</i>	<i>Kikombo</i>	§ Manyoni
† Bukene	¶ KILOSA	<i>Manyoni Station</i>
¶ BUKOBA	¶ KILWA	§ Masasi
<i>Bukwimba</i>	† Kimamba	* MASWA
<i>Bwembwela</i>	<i>Kingolwira</i>	<i>Maurui</i>
¶ DAR ES SALAAM	* KIRANDO	§* Mbeya
¶ DODOMA	<i>Kisangiro</i>	* MBOSI
<i>Gulwe</i>	§* Kondoa-Irangi	* MBULU
§ Handeni	§ Korogwe	† Mikesse
<i>Hedaru</i>	<i>Lembeni</i>	¶ MIKINDANI
† Itakara	¶ LINDI	* MKALAMA
<i>Igalula</i>	§* LIWALE	<i>Mkata</i>
¶ IRINGA	* LONGIDO	<i>Mkomasi</i>
<i>Isaka</i>	<i>Luhombo</i>	<i>Mkumbara</i>
<i>Itigi</i>	¶ LUSHOTO	<i>Mnyusi</i>
§ Kahama	<i>Mabama</i>	† Mohoro
<i>Kahe</i>	† Mabuki	† Mombo
† Kamachuma	†* MAFIA	¶ MOROGORO
§*KASULO	§ Mahenge	¶ MOSHI
* KIBONDO	<i>Makanya</i>	§ Mpwapwa
<i>Kidete</i>	<i>Makuyuni</i>	† Mtotohovu

* MUFINDI	§ Nzega	* SUMBAWANGA
† Muhesa	¶ PANGANI	¶ TABORA
§ *Musoma	<i>Pongwe</i>	¶ TANGA
Mwakete	<i>Pugu</i>	<i>Tengeri</i>
¶ MWANZA	<i>Ruvu</i>	¶ TUKUYU
* MWAYA	<i>Same</i>	* TUNDURU
† Namanyere	<i>Sanya</i>	† Ulete
† NGARE-NAIROBI	<i>Saranda</i>	† Usa
<i>Ngerengere</i>	§ Shinyanga	<i>Usboke</i>
<i>Ngombezi</i>	* SINGIDA	UTETE
† Ngomeni	<i>Soga</i>	<i>Uvinza</i>
† Njombe	§ Songea	

Rates of
postage.

	Inland.	British Possessions	Foreign.
LETTERS:	Shs. Cts.	Shs. Cts.	Shs. Cts.
Not exceeding 1 oz.	15	15	25
Each additional oz. or fraction thereof	10	10	15
BOOK PACKETS (Printed Papers):			
Each 2 oz. or fraction thereof	05	05	05
PATTERN AND SAMPLE PACKETS:			
Not exceeding 4 oz.	10	10	10
Each additional 2 oz. or fraction thereof	05	05	05
COMMERCIAL PAPERS:			
Not exceeding 10 oz.	*	25	25
Each additional 2 oz. or fraction thereof	*	05	05
REGISTERED NEWSPAPERS:			
Not exceeding 6 oz.	10	..	..
Each additional 6 oz. or fraction thereof	10	..	..
POSTCARDS:			
Single postcard	10	10	15
Reply postcard	20	20	30
LITERATURE FOR THE BLIND:			
Each 2 lb.	05	05	05
REGISTRATION, ETC.			
Registration fee	30	30	30
Advice of delivery	30	30	30
" " subsequent to posting	60	60	60
Late fee for registration	60	60	60
Late fee for ordinary letters	10	10	10
Compulsory registration fee	60	60	60

* Commercial papers for inland transmission are admitted at the rate for printed papers.

Insurance. Value not exceeding Shs.240 Cts.70
 Each additional Shs.240 or part thereof Cts.40
 The limit of value for which an article may be insured is Shs.2,400.

For every mile or part thereof Cts.50, plus ordinary postage from Express delivery.
the office of delivery.

The following denominations are issued:

5 Cents	20 Cents	50 Cents	Shs.1	Shs.10
10 "	25 "		" 2	" 20
15 "	30 "		" 5	

Postage
stamps.

Booklets price Shs.3 contain 5, 10 and 15 cents stamps.

Registered letter envelopes, size $3\frac{1}{2}'' \times 6''$ embossed, 30 cents	Cts. 40	Embossed stationery.
" " " " $5'' \times 8''$ " 30 "	45	
Envelopes, Court size, embossed, 15 cents	20	
Postcards, Single " 15 "	20	
" Reply " 15 "	35	

INLAND

Inland parcels may be registered to any destination, but insurance is restricted to certain offices. (See list of post offices given above.)

		Shs.	Cts.
Not exceeding 3 lb.	.	1	50
" " 7 "	.	3	00
" " 11 "	.	4	50

OVERSEAS

	Parcels not Exceeding			
	3 lb. Shs. Cts.	7 lb. Shs. Cts.	11 lb. Shs. Cts.	22 lb. Shs. Cts.
<i>Great Britain, Northern Ireland and Irish Free State</i>				
From Bukoba and Mwanza Districts (via Kenya)	3 50	5 75	7 75	12 00
From Bukoba and Mwanza Districts (via Dar es Salaam)	2 50	4 25	5 50	8 25
From all other Districts	2 50	4 25	5 50	8 25
<i>India</i>				
From Bukoba and Mwanza Districts (via Kenya)	3 00	5 75	7 75	No service
From Bukoba and Mwanza Districts (via Dar es Salaam)	2 00	3 75	5 75	"
From all other Districts	2 00	3 75	5 75	"
<i>Kenya and Uganda</i>				
From all Districts	2 50	4 00	5 00	"
<i>Union of South Africa</i>				
From Bukoba and Mwanza Districts (via Kenya)	3 75	7 00	9 75	"
From Bukoba and Mwanza Districts (via Dar es Salaam)	2 25	4 00	5 50	"
From all other Districts	2 25	4 00	5 50	"

Rates of postage to other parts of the world can be ascertained at any Post Office.

Telegraphs.

The Territory is connected by land lines with Uganda and Kenya on the north, and with Northern Rhodesia and Nyasaland on the south. Nyasaland provides an overland service with Southern Africa.

Communication is maintained with the Belgian Congo by means of a wireless station at Kigoma.

External communication.

Cable communication with all parts of the world is available by means of the Dar es Salaam-Zanzibar cable owned by the Eastern and South African Cable Co.

Wireless telegraph stations.

An up-to-date wireless station, owned and worked by Government, is situated at Dar es Salaam, the official particulars of which are as follows:

Latitude 6° 50' 12" S.

Longitude 39° 11' 25" E.

Code signal, ZBZ.

Power, 1½ KW.

Normal range:

Spark emission 600 miles.

C.W. „ 1500 „

Wave-lengths:

Spark 450, 600, 706 and 800 metres.

C.W. 2,100, 2,200, 2,300, 2,400 metres.

NOTE.—The normal wave-lengths employed are underlined.

Hours of service daily, including Sundays: 04.00 to 15.00 G.M.T.

System: Radio Communication Company's "Polar" marine installation.

The receiver is adjustable to any wave-length between 200 and 20,000 metres.

A short wave transmitter attachment is installed which is adaptable for C.W. or I.C.W. working on any wave-length between 15 and 80 metres, and a short wave receiver has a range of 16 to 100 metres.

The Kigoma wireless station is owned and worked by the Belgian Congo Government.

Call Signal KGA.

Power 5 KW.

Wave-length 2,100 metres.

System Oudin spark.



& Co. Ltd.

Stanford's Geog^l Estab^l, London

CABLEGRAMS

	From Dar es Salaam.		Other Offices.	
	Full rate.	Deferred.	Full rate.	Deferred.
	Shs. Cts.	Shs. Cts.	Shs. Cts.	Shs. Cts.
Great Britain	2 30	1 15	2 35	1 20
Irish Free State	2 40	1 20	2 45	1 20
Belgium	2 30	1 15	2 35	1 20
Denmark	2 55	1 30	2 60	1 30
France	2 40	1 20	2 40	1 20
Germany	2 50	1 25	2 50	1 25
Greece (mainland)	2 30	1 15	2 35	1 20
Holland	2 45	1 25	2 50	1 25
Italy	2 35	1 20	2 40	1 20
Norway and Sweden	2 55	1 30	2 60	1 30
Switzerland	2 40	1 20	2 45	1 25
Egypt (1st region)	2 90	1 45	2 95	1 50
Aden	1 30	0 65	1 35	0 70
India	2 45	1 20	2 50	1 25
Straits Settlements—				
Singapore	2 85	1 40	2 90	1 45
China—				
Hongkong	3 85	1 90	3 90	1 95
Shanghai	4 25	2 10	4 30	2 15
Japan	5 10	2 55	5 15	2 60
Australia	2 75	1 35	2 80	1 40
South Africa—				
Durban	2 30	1 15	2 35	1 20
Other Offices	2 40	1 20	2 45	1 20
Kenya	1 10	0 55	1 15	0 60
New York City and Eastern Canada	3 15	1 60	3 20	1 60

Cable rates.

Payment of three times the ordinary rate will secure priority of transmission to most countries. Deferred telegrams must be in plain language, English or French, except that in certain instances they may be written in the language of the country of destination.

Special rates are in force annually for transmission of Christmas and New Year greetings.

A week-end letter telegram service is available to Great Britain and all parts of Ireland, the minimum charge being Shs.10 for 20 words, with an additional charge of 50 cents for each word in excess of 20. This service is also available to Switzerland, the charges being Shs.11.90 and 60 cents respectively.

The rates for daily letter telegrams are given on the following page.

Daily letter telegrams.

A coast telegraph line extends from Mikindani, near the southern boundary, to Mtotohovu on the northern boundary. From Tukuyu a line connects with the Central Railway at Kilosa and branch lines run from Tandala to Songea and from

Internal communication.

Iringa to Mahenge. From Kasanga, on the south-eastern shore of Lake Tanganyika, a line running north connects with the Central Railway at Kigoma. Bukoba is connected with the Tabora-Mwanza route at Isaka. These routes, together with lines along the established railway routes and some minor branch routes, provide facilities for practically all the developed and settled areas in the Territory. A sketch map of routes is attached to this chapter.

DAILY LETTER TELEGRAMS

	From Dar es Salaam.		From other Offices.	
	Minimum Charge for 20 Words.	Charge for each Additional Word.	Minimum Charge for 20 Words.	Charge for each Additional Word.
	Shs. Cts.	Shs. Cts.	Shs. Cts.	Shs. Cts.
Great Britain	11 60	0 60	12 00	0 60
Irish Free State	12 00	0 60	12 20	0 60
Belgium	11 60	0 60	12 00	0 60
Luxemburg	12 00	0 60	12 20	0 60
Germany	12 40	0 60	12 60	0 65
France	12 80	0 80		
Aden	6 60	0 35	6 80	0 35
Perim	9 00	0 45	9 20	0 45
India	12 20	0 60	12 40	0 60
Iraq	18 50	0 95	18 70	0 95
Singapore	14 20	0 70	14 40	0 70
Australia	13 70	0 70	13 90	0 70
New Zealand	15 70	0 80	15 90	0 80
Seychelles	6 60	0 35	6 80	0 35
Mauritius	11 60	0 60	11 80	0 60
South Africa—				
Durban	11 60	0 60	11 80	0 60
Other Offices and S.W. Africa	12 40	0 60	12 60	0 65
Southern Rhodesia	14 00	0 70	14 20	0 70
Northern Rhodesia—				
Abercorn, Fort Jameson and Kasama	17 20	0 85	17 40	0 85
Other Offices	16 40	0 80	16 60	0 85
Nyasaland	16 40	0 80	16 60	0 85
Kenya and Uganda	5 60	0 30	5 80	0 30
New York City and Eastern Canada	15 60	0 80	15 80	0 80
Switzerland and Lichtenstein	13 35	0 65	..	..

INLAND AND KENYA.	Plain Language.		Code or Cypher.	
	Minimum Charge for 10 Words.	Each Additional Word.	Minimum Charge for 10 Words.	Each Additional Word.
	Shs. Cts.	Shs. Cts.	Shs. Cts.	Shs. Cts.
Inland	1 00	0 10	1 50	0 15
Kenya and Uganda . . .	1 50	0 15	2 25	0 25

Telegraph charges.

Urgent telegrams for Tanganyika, Kenya and Uganda are accepted at double the ordinary rates.

SOUTH AFRICA BY OVERLAND ROUTE.	Plain Language.		Code or Cypher.	
	Minimum Charge for 12 Words.	Each Additional Word.	Minimum Charge for 12 Words.	Each Additional Word.
	Shs. Cts.	Shs. Cts.	Shs. Cts.	Shs. Cts.
Belgian Congo (via Broken Hill)	10 50	0 90	15 75	1 35
Union of South Africa				
South-West Africa . . .				
Bechuanaland Protectorate				
Lorenço Marques District and Inhambane . . .	7 50	0 65	11 25	0 95
Rhodesia, Southern . . .				
Rhodesia, Northern (excluding Abercorn and Kasama) . . .				
Rhodesia, Northern (Abercorn and Kasama) . . .	25 cts. per word		40 cts. per word	
Beira Railway Company's offices (Amatongas, Bandula, Beira, Macequece, Ponte de Pungwe, Vila Machado and Vila Pery)	8 00	0 65	12 00	1 00
Portuguese East Africa (excluding Beira Railway Company's offices, Lorenço Marques District and Inhambane) . . .	7 00	0 60	10 50	0 90
Nyasaland	5 50	0 45	8 25	0 70

BELGIAN CONGO VIA KIGOMA WIRELESS . . . 60 cents per word.

The registration fee for an approved abbreviated telegraphic address is Shs.30 per annum, payable in advance. Abbreviated telegraph addresses.

Applications should be made through Postmasters.

A list of abbreviated official telegraphic addresses is given in Appendix VI.

Trunk
telephones.

The principal trunk telephone routes (metallic loop) are as follows:

Dar es Salaam—Tanga.
Tanga—Mombasa (Kenya Colony).
Moshi—Arusha.
Tanga—Muhesa.
Muhesa—Amani.
Mombo—Lushoto.
Mwanza—Mabuki.
Bukene—Nzega.

Composite telegraph working is superposed on all the above loops. The railway telephone service is carried on by means of phantophones working on composite telegraph-telephone circuits. Trunk working between several other places is effected, when required, by switching the telegraph line to telephone apparatus, and, meanwhile, suspending telegraphs.

URBAN EXCHANGE AREAS

Telephone
rentals and
fees.

1. First and second direct Exchange lines, each	Shs. 300 per annum.
2. Additional direct line	„ 240 „ „
3. Indoor extensions not exceeding 110 yards.	„ 60 „ „
4. Indoor extensions over 110 but under 220 yards	„ 80 „ „
5. Outdoor extensions not exceeding 220 yards	„ 100 „ „
6. Outdoor extensions over 220 but under 440 yards	„ 150 „ „
7. Outdoor extensions exceeding 440 yards— same as direct line subject to 1 and 2 above.	

OTHER AREAS

1. First mile	Shs. 300 per annum.
2. Next four miles, per quarter mile	„ 15 „ „
3. Beyond first five miles, per quarter mile	„ 22/50 p.a.

PRIVATE BRANCH EXCHANGE

1. Per indicator	Shs. 10 per annum.
2. Per instrument	„ 30 „ „

TRUNK CHARGES

(a) Inland:

For each period of three minutes or part
thereof per 25 miles 75 cents.

(b) Mombasa (Kenya) Trunk:

	For initial Three Minutes.	Each Additional Minute or part thereof.
	Shs. Cts.	Shs. Cts.
Dar es Salaam—Mombasa .	6 00	2 00
Tanga—Mombasa . . .	3 00	1 00

PUBLIC CALL OFFICE FEE

For each period of three minutes or part thereof . 25 cents.

A Post Office Savings Bank was established by an Ordinance dated 31st December, 1926, and business was commenced on 2nd January, 1927, at head Post Offices. Savings bank.

Deposits may not exceed two thousand shillings in any one calendar year, or ten thousand shillings in all.

The rate of interest paid on deposits is 3 per cent per annum, calculated monthly on balances of multiples of twenty shillings.

The maximum amount of any one order issued is eight hundred shillings, but any number of orders may be issued to one person. Money orders.

A telegraph money order service is available between head Post Offices and the service is also maintained with certain other countries.

For the first Shs.300, 50 cents per Shs.20 or part thereof. Money orders com mission.
 For the next Shs.300, 40 cents per Shs.20 or part thereof.
 For the next Shs.200, 30 cents per Shs.20 or part thereof.
 No single order may exceed Shs.800.

Telegraph money orders may be transmitted between certain offices at the above rates plus the cost of the telegram of advice and a supplementary fee of one shilling.

Foreign and colonial money orders may be remitted to most parts of the world.

Telegraph foreign money orders are only transmitted to:

Great Britain and Northern Ireland, Kenya and Uganda,
 Union of South Africa, Nyasaland, India, Zanzibar.

Money orders are paid at most Post Offices in the Territory.

Postal
orders.

British postal orders are sold at all head and sub Post Offices and certain agencies. There is no domestic postal order service.

Postal
orders com-
mission.

Denominations issued.	Poundage payable.
6d. and 1/-	10 cents.
1/6, 2/- and 2/6	15 „
5/-, 7/6 and 10/-	25 „
12/6, 15/-, 17/6 and 20/-	40 „

Postage stamps in extension of value may be affixed in the spaces provided on the postal orders. The stamps may not exceed two in number or 5d. in total value. Odd halfpence are not paid.

The equivalents in local postage stamps are as follows:

1d.	10 cents.
2d.	15 „
3d.	25 „
4d.	35 „
5d.	40 „

Miscellane-
ous postal
information.

Private
boxes.

Private post boxes are available at the larger offices at a rental of Shs.10 per annum for private individuals and Shs.40 per annum for firms, societies, etc. In addition to the rental a deposit of Shs.10 is required for the key. The private box system is recommended as the best means of securing prompt delivery of correspondence.

Private bags.

Charges for private bags are: for one person, Shs.30 per annum; for each additional person up to a maximum of six, Shs.5 per annum. Bags must be furnished by the renter or at his cost. Suitable bags fitted with locks and keys are supplied at an inclusive charge of Shs.11/23.

This service will be found of value to persons residing some distance from a Post Office, particularly if used in conjunction with a deposit account.

Deposit
account.

All postal and telegraph charges may be paid through a deposit account at a cost of Shs.20 per annum or Shs.2 per month or part thereof for the unexpired period of the year, thereby saving the transport of money by messenger, ensuring the immediate dispatch of telegrams and registered articles, and delivery of dutiable articles without formality or delay.

Fees are payable in advance to 31st December each year.

Mail notices containing the latest information available re- Mail notices.
specting the receipt and dispatch of overseas mail are issued
at Dar es Salaam and Tanga on payment of Sh.1 per month
or Shs.10 per annum.

Dar es Salaam and Tanga—7 A.M. to 5 P.M. (restricted business, Hours of
noon to 5 P.M. Saturdays). public busi-
ness at head
and sub Post
Offices.

Dodoma	Mabuki	} 8 A.M. to 12 noon 2 to 4 P.M.
Iringa	Morogoro	
Kahama	Moshi	
Kigoma	Mwanza	
Kilosa	Tabora	
Korogwe	Lindi	

All other Offices—Monday to Friday, 8 A.M. to 12 noon, 2 to
4 P.M. Saturday, 8 A.M. to 12 noon.

Sundays and Public Holidays, 9 to 10 A.M.

Licences for the reception of wireless signals are issued to Amateur
amateurs free of charge. There is no broadcast station in the wireless
Territory. licences.

The first issue of postage stamps was made in 1893, when Postage
certain German stamps of the 1889-99 design were surcharged stamp issues.
with the value shown in "pesas" horizontally. The rupee was German East
equal to 100 heller or 64 "pesas". Africa.

A second issue was made in 1896 when "Deutsch-Ost-
afrika" was included in the surcharge, which was printed
diagonally upward from left to right. The feature of the
design of the stamps was the German Eagle.

The denominations were as follows:—

	Used. ¹	Unused. ¹
2 p. on 3 pf., brown	6/6	8/6
3 p. on 5 pf., green	6/6	8/6
5 p. on 10 pf., carmine	3/6	3/6
10 p. on 20 pf., blue	3/-	2/6
25 p. on 50 pf., red-brown	3/-	3/-

The German Colonial design, the feature of which was a

¹ For the interest of philatelists the values given in Messrs. Stanley Gibbons' catalogue are quoted, but values, of course, are subject to constant fluctuation.

ship at sea, with the superscription "Deutsch-Ostafrika", was issued in 1900 in the following denominations:

	Used.	Unused.
2 p., brown	4d.	8d.
3 p., green	6d.	8d.
5 p., carmine	1/-	9d.
10 p., blue	1/-	1/-
15 p., black and orange	1/6	1/6
20 p., black and carmine	2/6	2/6
25 p., black and violet	2/6	2/6
40 p., black and red	4/6	5/-
1 r., lake	6/-	7/6
2 r., yellow-green	5/-	10/-
3 r., red and blue-black	30/-	17/6

In 1905 a new issue was made with the values expressed in heller. The paper was not watermarked, but in 1906 there was an issue of similar denominations and colours, bearing a lozenge watermark.

	Used.	Unused (not watermarked).
2½ h., brown	6d.	8d.
4 h., green	1/-	1/3
7½ h., carmine	1/6	6d.
15 h., blue	2/-	6d.
20 h., black and red on yellow	2/-	2/-
30 h., black and carmine	1/6	1/6
45 h., black and mauve	4/6	3/6
60 h., black and carmine on rose	6/-	7/-

There was no further issue prior to the outbreak of war except a 3 r., red and black (used 6/-, unused 25/-), although two other denominations were printed but not issued, viz.:

1 r., red (unused 2/-), and 2 r., yellow-green (unused 6/-).

The stocks of stamps in the Protectorate sufficed to meet demands during the first year of the war, but towards the end of 1915 a shortage was anticipated and various expedients were devised. For instance, in January, 1916, correspondence handed in at the more important offices was paid for in cash and the postmark bore an indication accordingly, while the German warship *Königsberg* and some of the Post Offices in the southern part of the country also used postage

stamps of the current Imperial issue, unsurcharged, of the following denominations:

3, 5, 10, 20, 30 and 50 pf., and 1 mark.

It became evident, however, that if the war was continued for any length of time stocks would have to be manufactured locally and supplies of war stamps were actually printed, as described in the following official communication published in July, 1922, by the German "Post Ministerium" in Berlin, but the arrival of the German blockade runner *Marie* in June, 1916, with a stock of stamps, made the issue of the locally made stamps unnecessary.

The emergency war stamps of German East Africa were printed by order of the Protectorate postal authorities in the spring of 1916 by the Mission at Wuga, Wilhelmstal District, when owing to the war the supply of postage stamps in the Colony was almost exhausted. Shortly after these stamps had been produced, the blockade runner *Marie* succeeded in reaching the Colony and brought a fresh supply of Protectorate stamps from Berlin. Therefore, the issue of the emergency stamps was suppressed. In order to prevent them falling into the hands of the enemy, and on the other hand, to be able to utilize them, if desirable, after the war, they were buried in a plantation near Morogoro at the bottom of a cemented subterranean drain. There they remained till 1921, when as the result of a request made by the German Government and acceded to by the British Administration, a few sheets of these stamps were brought back to Germany. These war stamps consist of values at $2\frac{1}{2}$ and $7\frac{1}{2}$ heller (100 in a sheet) as well as at Rp.1 (20 in a sheet); they were rouletted, but not gummed. Of the $2\frac{1}{2}$ and $7\frac{1}{2}$ heller issues, it is important to note that there are two different types; in No. 1 type the horizontal strokes are straight, in No. 2 type they are curved. This distinction is due to the fact that the Mission printing press did not possess a sufficient number of figure types of uniform character to complete an entire sheet of one hundred stamps. Owing to the number of years of interment beneath the damp, tropical soil, a portion of these stamps arrived in Germany entirely spoiled, while many others were too much damaged for philatelic purposes. The colour has somewhat faded and the paper is so liable to crumble that the greatest care should be taken in handling these stamps.

It is understood that the paper used for the war stamps was specially manufactured for the purpose by a mission in the Mwanza district.

British occu-
pation of
Mafia Island.

Mafia Island was occupied by the British forces in March, 1915, and was placed under the administration of the Government of Zanzibar. Towards the end of the year trade in the island resumed its normal course and letters which, in the interim, had been dispatched unstamped, were stamped with surcharged German stamps until the supply which was found in the island was exhausted. The overprinted stamps were issued from the military base at Kilindini and are of great rarity.

The overprint was "O.H.B.M.S. Mafia" within a circle and was of a bluey-green colour, and the undermentioned denominations were issued:

- 24 p., brick red.
- 12½ h., olive green.
- 25 h., dark green.
- 50 h., slate.
- 1 r., mauve.

A ferry stamp of 25 h., grey, was similarly overprinted.

The six stamps above described were also overprinted in green, as follows:

G.R.
Post.
Mafia.

A further issue of Mafia stamps is referred to in the succeeding paragraph.

Indian Ex-
peditionary
Force.

The issue consists of 1914 Georgian stamps of India overprinted in black "I.E.F." of the following denominations:

- 3 pies, grey.
- ½ a., green.
- 1 a., carmine.
- 2 a., violet.
- 2½ a., blue.
- 3 a., orange.
- 4 a., olive.
- 8 a., mauve.
- 12 a., claret.
- 1 r., green and brown.

When the surcharged German stamps of Mafia gave out, the above were also used in Mafia in 1915 and 1916, with the further overprint made by a hand stamp in green:

G.R.
Post.
Mafia.

A variety of errors were made in making this overprint. It appears inverted in all values and there are instances of double and sideways overprint. Eventually, also, all denominations were issued with "G.R.—Post—Mafia" in three lines in italics. Genuine copies with the various overprints and errors are very rare and are much sought after by collectors.

An issue for the use of the Nyasaland Field Force in the south-western area of the occupied territory was sanctioned by the Government of Nyasaland at the request of the General Officer Commanding that Force. Nyasaland Protectorate stamps of the King George V., 1913, issue were overprinted "N.F." in black and issued in 1916–17 in the following denominations:

Nyasaland
Field Force.

	Used.	Unused.
½d., green	2/-	2/6
1d., red	1/-	1/6
3d., purple and yellow	7/6	10/-
4d., red and black on yellow	25/-	25/-
1s., black on green	47/6	47/6

The following varieties occur:

- (1) In the 3d. overprint no stop after 'F'.
- (2) On the six copies printed at Mbamba Bay Field Post Office on Lake Nyasa there is a double overprint.

Current stamps of the Belgian Congo overprinted "EST AFRICAIN ALLEMAND OCCUPATION BELGE", "DUITSCH OOST AFRIKA BELGISCHE BEZETTING", were issued in 1916 in the following denominations for use in the districts of Tabora, Kigoma, etc., which had been occupied by the Belgian forces:

Belgian
occupation
of Tabora,
Kigoma, etc.

	Used.	Unused.
5 c., green	3/-	3/-
10 c., rose	3/-	4/-
15 c., blue green	3/-	4/-
25 c., blue	6/-	8/-

	Used.	Unused.
40 c., lake . . .	1/-	1/3
50 c., brown . . .	1/3	1/6
1 f., olive . . .	8d.	1/-
5 f., orange . . .	3/6	4/6

Tanganyika
issues.

In 1917, the British East Africa King George V. issue of 1912 was overprinted "G.E.A.", watermark multiple Crown C.A. The 1 c., 75 c. and 1 r. were overprinted in red, and the remainder in black letters. The 1 cent also appears with the overprint in vermillion.

The stamps were of the following denominations:

	Used.	Unused.
1 c., black vermillion overprint .	10/-	10/-
1 c., black	1d.	1d.
3 c., green	2d.	2d.
6 c., red	3d.	3d.
10 c., orange	6d.	4d.
12 c., grey	9d.	9d.
15 c., blue	10d.	10d.
25 c., red and black on yellow .	1/6	1/-
50 c., mauve and black . . .	2/6	2/6
75 c., black on green	3/-	3/6
1 r., black on green	4/6	...
2 r., black and red on blue . .	8/-	...
3 r., green and lilac	12/6	...
4 r., green and red on yellow .	16/-	...
5 r., purple and blue	20/-	...
10 r., green and red on green .	40/-	...
20 r., purple and black on red .	80/-	...
50 r., green and red	200/-	...

The following values, with the Script C.A., were similarly overprinted:

	Used.
12 cents	1/-
15 cents	1/-
50 cents	2/6
2 rupees	12/6
3 rupees	17/6
5 rupees	30/-

In 1922, owing to a change in postage rates subsequent to the Postal Union Congress at Madrid, 1920, the supply of 1-cent and 10-cent stamps was rapidly exhausted, and, pending the issue of Tanganyika stamps, it was necessary to over-

print locally a further supply of stamps of those denominations. Two hundred sheets of 240 stamps of each denomination were thus overprinted. Watermark Script C.A. upright. In the 1-cent value the overprint appears double in a few copies, and in the 10-cent value there are specimens with the overprint inverted, the genuineness of which is doubted by the Government of Tanganyika. The afore-mentioned stamps were valued in rupee currency.

In June, 1922, Tanganyika stamps, having an upright watermark Script C.A. and featuring the head of a giraffe, were issued in the following denominations of shilling currency:

	Used.	Unused.
5c., purple . . .	3d.	2d.
10 c., green . . .	5d.	3d.
15 c., red . . .	6d.	2d.
20 c., orange . . .	9d.	4d.
25 c., black . . .	3/6	2/-
30 c., blue . . .	1/3	1/-
40 c., brown . . .	1/6	1/-
50 c., grey . . .	1/9	1/-
75 c., ochre . . .	3/-	2/-

The shilling denominations bore a horizontal watermark Script C.A. and were as follows:

	Used.	Unused.
1 sh., green . . .	5/-	5/-
2 sh., purple . . .	8/-	8/-
3 sh., black . . .	10/-	10/-
5 sh., red . . .	25/-	25/-
10 sh., blue . . .	40/-	40/-
20 sh., orange . . .	100/-	100/-

All the above stamps were in sheets of 240 in the case of cental denominations or 120 for shilling denominations, but in 1925 the number was reduced to 200 and 100 respectively.

The Stockholm Congress of 1924 again altered the basic postal rates, an alteration which necessitated a change in colour of certain denominations, and the following issue was made in 1925:

	Used.	Unused.
5 c., green . . .	3d.	2d.
10 c., yellow . . .	5d.	4d.
25 c., blue . . .	10d.	10d.
30 c., purple . . .	1/6	1/3

A new design of stamps bearing the effigy of King George V. was issued in January, 1927. The inscription on the stamps is "Mandated Territory of Tanganyika", whereas the giraffe issue merely had the description "Tanganyika Territory".

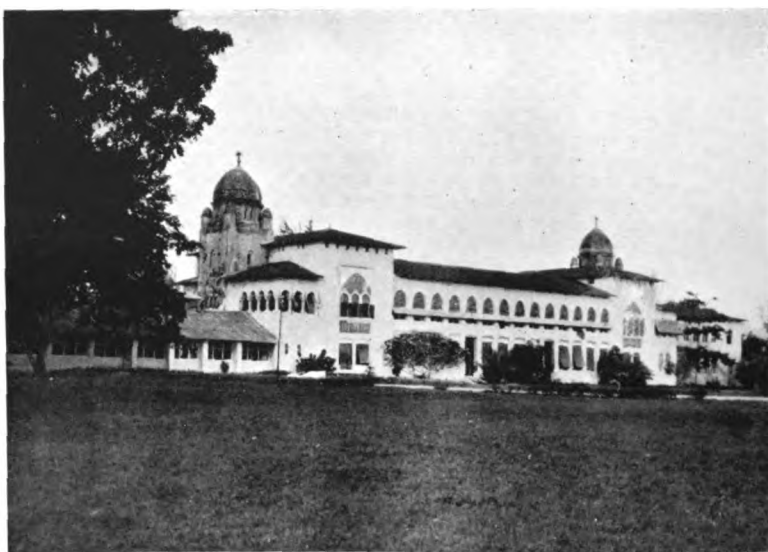
	Used.	Unused.
5 c., green	2d.	1d.
10 c., yellow	3d.	2d.
15 c., red	4d.	2d.
20 c., orange	4d.	4d.
25 c., blue	5d.	5d.
30 c., purple	6d.	6d.
40 c., brown	10d.	10d.
50 c., grey	8d.	8d.
75 c., ochre	1/6	1/6
1 sh., green	1/4	1/6
2 sh., purple	2/8	3/-
3 sh., black	6/-	7/6
5 sh., red	6/6	7/6
10 sh., blue	12/6	13/6
£1, orange	25/-	27/6

Watermark Script C.A. upright.

There will be no further issue of 40 and 75 cents or 3 shilling denominations.

A collection of specimen copies of stamps, issued after civil occupation, is kept at the General Post Office, Dar es Salaam.

At the Tanganyika Agricultural and Industrial Exhibition, held in Dar es Salaam in September, 1929, letters posted at the Exhibition Post Office were date-stamped "Exhibition P.O. Tanganyika". It will be of interest to collectors who specialize in date stamps to know that less than 2,000 letters with this date stamp were posted.



THE EUROPEAN HOSPITAL, DAR ES SALAAM



**CHILD WELFARE WORK AT THE CLINIC OF THE CHURCH
MISSIONARY SOCIETY, KONGWA, CENTRAL PROVINCE**

CHAPTER XI

SOCIAL SERVICES

(a) HEALTH AND SANITATION

TANGANYIKA, in common with other East African territories situated within the tropical zone, contains areas which vary widely in hygienic conditions. The coastal region is hot, humid and generally less healthy, and similar conditions are found in the low-lying portions of the interior. The highlands, on the other hand, situated for the most part in the northern and south-western areas, are cool for a great portion of the year and are suitable for European occupation.

General
remarks on
health.

Good health, especially in the less salubrious districts, is largely a matter of trouble, and those who neglect the very simple but essential precautions which experience has found to be necessary will suffer for their carelessness, whereas by the exercise of care and restraint health can be maintained even under adverse conditions. Excess of all kinds should be avoided, and moderation which is recognized as necessary to the enjoyment of good health even in temperate climates is doubly so for those resident in tropical countries. The chief enemies of the white man are the sun, bad water and mosquitoes, all of which can be guarded against, provided that elementary precautions are observed. Good food is essential for the maintenance of good health in the tropics, and it is the greatest mistake to economize in this direction, as unpalatable and badly cooked food is conducive to a breakdown. Fresh beef, and mutton of a kind, can be obtained at all the large towns, and there are few places where chickens and eggs are not plentiful, though in the principal centres these are expensive. Fish is a staple article of diet on the

coast and in townships on the lakes, and fruit and vegetables are obtainable in most stations. Dar es Salaam, in particular, enjoys an excellent supply of all English vegetables and of fruits such as peaches and plums, which are grown in the hills of the Morogoro district and are despatched regularly to the capital. Ice is obtainable at Dar es Salaam, Mwanza, Tabora and Tanga.

The generally accepted rules of diet are that abstention from alcohol before sundown is desirable, that plenty of fruit and vegetables should be taken, a heavy meat diet being avoided, and that the midday meal should be a light one. But personal predilections enter largely into the question, and each will find in the light of experience what course of life is best fitted to his system. It is universally admitted that daily exercise is essential to health, and facilities are available in most townships for recreations such as tennis and golf, swimming in stations on the sea coast, and in the larger centres cricket and football.

**Organisation
of the
medical
service.**

The medical service of the Tanganyika Territory was inaugurated during March, 1917, when medical headquarters were established at Tanga with a complement of a Principal Medical Officer and three Medical Officers. In April, 1918, the Tanga hospital was taken over from the military, and, later, medical staff was posted to Arusha, Bukoba, Kasanga, Mahenge, Morogoro, Moshi, Mwanza, Pangani and Tukuyu. During 1919 the headquarters of the department were transferred to Dar es Salaam, and the services of a Medical Officer of Health and a dental surgeon were secured. The European and the Sewa Haji (Native) Hospitals were taken over from the military authorities and Medical Officers were posted to Iringa, Kilwa and Lindi, the Medical Officer, Pangani, being transferred to Tabora. During 1920, several Medical Officers, most of whom continued to serve on contract after their release from the forces, expressed their unwillingness to accept permanent appointments or to continue indefinitely under terms which were provisional, while others who were long overdue for leave wished to return to England. As a consequence, only nine Medical Officers, of whom one was a Health Officer, were left to provide for the medical wants

of the country. Fortunately a Senior Sanitation Officer, a Director of Laboratory, two temporary Medical Officers and a Medical Storekeeper were added to the staff. It was not, however, until the beginning of the year 1921 that the furnishing of regular monthly and other routine medical reports was effected. Since that time the headquarter staff of the Department has largely increased, especially in recent years, and the medical and sanitation staff of the Territory now consists of the following:

- 1 Director of Medical and Sanitary Services.
- 1 Deputy Director of Medical Service.
- 1 Deputy Director of Sanitary Service.
- 1 Deputy Director of Laboratory Service.
- 56 Medical and Health Officers.
- 2 Dental Surgeons.
- 1 Entomologist.
- 1 Analyst.
- 1 Matron.
- 46 Nursing Sisters and Health Visitors.
- 27 European Sanitary Superintendents.
- 2 Indian Assistant Surgeons.
- 60 Indian Sub-Assistant Surgeons.
- 36 Indian Compounders.
- 2 Indian Sanitary Inspectors.
- 111 African Dispensers.
- 239 African Urban and District Sanitary Inspectors.
- Medical Storekeepers, Clerks, Dressers, etc.

Much preventive work has been done in connexion with the epidemic, endemic and infectious diseases which are known to exist. At every medical station active measures are taken to reduce the incidence of malaria by the improvement of sanitation, and by attacking the breeding-places of the anopheline mosquito. These measures comprise the filling in or draining of swamps, the oiling of pools, the diversion of standing water, the clearance of bush, and the planning of townships so as to secure the segregation of residential quarters from congested and native areas. But while the unceasing warfare which is waged against mosquitoes, and education in

Anti-malarial
measures,
etc.

sanitation are productive of improvement, the mosquito cannot be entirely eliminated, and it devolves upon the individual to augment the efforts of the medical authorities, which are, so to speak, external, by taking steps in his own home for his own personal well-being, such, for instance, as the use of mosquito nets and boots and the taking of quinine.

Comparatively few Europeans suffer from water-borne diseases, but water supplies in the larger townships are receiving attention as funds permit, and several schemes are under investigation for the provision of purer supplies.

Rural sanitation, etc.

In rural areas the institution of a service of African Sanitary Inspectors has resulted in the spread of educative propaganda amongst a people whose ideas of sanitation are primitive, and the activities of these officials, combined with the teaching of hygiene in the schools and the improved housing and sanitary conditions to be found on the estates of responsible employers, cannot fail to have far-reaching results among the native population.

Particular attention has been paid to tuberculosis in the Moshi district, where this disease is prevalent among the Wachagga, and an extensive campaign has been in continuous progress during the last six years against syphilis and yaws, which has resulted in the treatment of over 102,000 cases of the former and 560,000 of the latter.

Child welfare.

One of the most urgent and important problems before the medical authorities is the reduction of infantile mortality amongst the African population, which, owing to ignorance of mothercraft and to unhygienic methods in early childhood, is extremely high. The preservation of these young lives is, indeed, vital to the well-being of the race and to the economic progress of the country. The density of population to the square mile in Tanganyika is just under thirteen, and while much land, of course, is waterless and unfertile, there are large areas at present lying idle which would be centres of production, given a population to cultivate them. Again, density of population is, at present, the only proved method of combating the tsetse fly, for, where man cultivates, the bush is cleared and the fly goes farther afield. The cutting and removal of the bush is useless, however, unless effective

settlement follows to ensure the permanence of the clearings. In 1925 a movement was started with the object of reducing the grievously high rate of infant mortality, and clinics and child-welfare centres were established. These now exist at Bagamoyo, Dar es Salaam, Tanga, Tabora, Kahama, Itaranga, Nzega, Mwanza and Machame. An inherent shyness and an innate conservatism among native women has to be combated, but progress has been very satisfactory, and the number of confinements dealt with in 1929 amounted to over 2,300, of which 1,100 were attended to at the Kahama clinic alone. A clinic established by missionary enterprise in the Shinyanga district of Tabora, and subsidized to some extent by Government, dealt with close upon another 1,000 cases.

The following table shows the amount spent annually on medical services since the establishment of the Medical Department in Tanganyika: Expenditure
on medical
services.

1917-18	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24
£10,511	£34,823	£48,807	£90,787	£101,918	£89,999	£91,341
1924-25	1925-26	1926-27	1927-28	1928-29	1929-30*	1930-31*
£106,127	£147,708	£183,811	£199,346	£232,467	£234,652	£270,912

* Estimated.

There are hospitals or dispensaries at the following centres in the Territory in charge of European medical officers, Asiatic Sub-Assistant Surgeons, or native dispensers: Hospitals.

Bukoba Province—

Biharamulo

*Bukoba

Central Province—

*Dodoma

*Kondoa-Irangi

Manyoni

Mkalama

*Mpwapwa

*Singida

Eastern Province—

Bagamoyo

*Dar es Salaam

Eastern Province—contd.

*Kilosa

Mafia Island

*Morogoro

Utete

Iringa Province—

*Iringa

Njombe

Malangali

Mbeya

*Tukuyu

Those marked with an asterisk have European Medical Officers in charge of them.

Kigoma Province—

Kasanga

Kasulu

Kibondo

*Kigoma

Namanyere

Ujiji

Lindi Province—

Kibata

Kilwa

*Lindi

Liwale

Masasi

Mikindani

Tunduru

Mahenge Province—

Kisawasawa

*Mahenge

*Songea

Mwanza Province—

Ikoma

Maswa

Musoma

*Mwanza

Northern Province—

*Arusha

Kibaya

*Kibongoto

Mbulu

*Moshi

Usangi

Tabora Province—

Itaranganga

*Kahama

Nzega

Shinyanga

*Tabora

Ugogo

Ushietu

Ushirombo

Tanga Province—

Handeni

*Lushoto

Pangani

*Tanga

Those marked with an asterisk have European Medical Officers in charge of them.

Hospital accommodation for Europeans is available at Dar es Salaam, Arusha, Iringa, Lindi, Moshi, Tabora and Tanga, a total of ninety-six beds being provided, while for Asiatics fifty-nine beds are available.

At Arusha a maternity home has been built, largely from donations from the Trustees of the late Mr. A. de Rothschild, to serve the northern area. The home is staffed by and is under the control of Government. X-ray plants are installed at the Dar es Salaam, Tabora and Tanga hospitals.

Government Dental Surgeons are stationed at Dar es Salaam and Tanga, and X-ray plants are installed in both dental surgeries.

There are thirty-five native hospitals which, together with the maternity clinics referred to above, have a complement of eighteen hundred beds. Besides these, there are some two hundred and fifty tribal dresser stations in the various districts at which material for first aid is available, so that in case of accident or injury from wild animals, inquiry should be made of the natives or chiefs as to the nearest treatment centre, where early relief may be obtained until skilled services are procurable. There are also a number of medical missions in various parts of the Territory at which expert services are available.

The following are the fees charged for maintenance at the Hospital fees. Government hospitals in the Territory :

Officials—European officials:		Shs. per day.
Drawing salaries up to and including £300 per annum	.	4
„ „ from £301 up to and including £500 per annum	.	6
„ „ from £501 up to and including £700 per annum	.	8
„ „ over £700 per annum	.	10

Non-European officials other than natives of Africa:

Drawing salaries under Shs.100 per mensem	.	Free
„ „ from Shs.100 per mensem to Shs.199 per mensem	.	1
„ „ of Shs.200 per mensem and over	.	2

Certain special charges are made for non-European officials occupying wards in the Asiatic wings of European hospitals.

African officials:

Drawing salaries under Shs.100 per month	.	Free
„ „ of Shs.100 per month and over	.	-/50

Missionaries are charged at the rate for officials.

Non-officials—Europeans:

Ordinary ward	.	14
Single-bedded ward	.	20

Non-officials—Asiatics:

European hospitals	.	7
Native hospitals	.	2

Non-officials—African:

	Shs. per day.
Up to 14 days	1
After 14 days and natives not in regular employment .	Free

Medical practitioners. The following are entitled to register in Tanganyika as medical practitioners:

- (i.) The holder of any British, British Indian or British Colonial degree, diploma or licence entitling him to registration in the United Kingdom.
- (ii.) The holder of a degree or licence in medicine or surgery of any medical school in Europe, the United States of America or Japan, the degrees, diplomas or licences of which are recognized as entitling to registration by the General Council of Medical Education and Registration in the United Kingdom.

Assistant-surgeons or sub-assistant-surgeons who are in the Government service or, having served with merit, have retired from the service may be licensed as medical practitioners at the discretion of the Director of Medical and Sanitary Services.

Dental practitioners. The following are entitled to registration in Tanganyika as dentists:

- (i.) The holder of a licence or degree in dental surgery or dentistry of any of the bodies or universities electing members of the General Council of Medical Education and Registration in the United Kingdom.
- (ii.) Any person who can satisfy the Registrar that he is entitled to be registered in the United Kingdom as a foreign or colonial dentist.

Fees for registration. The fees for registration are given in Chapter VII.

All medical officers in the Tanganyika service, and all medical officers of His Majesty's forces residing in the Territory on full pay, and all ship's surgeons in discharge of their duties are entitled to registration free of charge.

Medical Practitioners and Dentists Board. A Board is appointed for the purpose of the Medical Practitioners and Dentists Ordinance, consisting of the Director of Medical and Sanitary Services (chairman) and the Deputy Directors of the Medical and Sanitary Services.

A list of medical practitioners is given in Appendix VII.

All druggists require a licence and the following are entitled to qualify for a licence:

- (i.) Duly qualified chemists and druggists in Great Britain and Ireland, or persons holding a certificate or diploma of competency as a chemist or druggist from recognized institutions.
- (ii.) Any person who satisfies the Director of Medical and Sanitary Services that he has received a sufficient preliminary practical training and passes a satisfactory examination.

The following are the lunatic asylums in the Territory:

Lunatic
asylums.

- (1) All prisons gazetted as first and second class prisons.
- (2) The Lutindi Asylum.
- (3) The Dodoma Asylum.

Blackwater Fever.—See under "Malaria".

Dysentery and Typhoid.—Both these diseases are common, but water and milk should always be boiled, and vegetables which are served uncooked should be avoided unless the source is above suspicion. Any abdominal condition that does not clear up within a day or two with ordinary methods of treatment should not be allowed to continue without medical advice being taken.

Notes on
some dis-
eases and
ailments met
with in
Tanganyika.

Malaria is prevalent, especially after the rains, in many parts of the country, and occasionally is contracted in unexpected places, even in the highlands. The disease is due to a parasite found in the blood, and is conveyed by the bite of an anopheline mosquito. It takes from seven days to a fortnight for the parasites to increase in the blood in sufficient numbers to produce symptoms of fever.

Malaria is one of the most common causes of debility, and occasionally the true cause is only discovered when improvement follows a course of quinine.

Sub-tertian or malignant malaria is the common form in East Africa, but simple tertian has been apparently more prevalent in recent years. Quartan malaria, though common in India, is very rare in East Africa. In the tertian fevers the temperature rises every other day, though the sub-tertian is

often irregular, and in the quartan it rises every third day. A patient suffering from malaria should stay in bed until the temperature has been normal for two days. On the first night 3 grs. of calomel should be taken, followed by a dose of Epsom salts in the morning. The following doses of quinine should be taken:

5 grs. of quinine three times a day on the first day.

5 grs. six times a day while the fever lasts.

5 grs. four times a day for a week.

5 grs. twice a day for a week.

If the fever lasts for over a week after taking quinine in these doses, i.e. 30 grs. a day, it is probable that some other disease is the cause, such as typhoid fever (enteric) or relapsing fever.

To avoid being bitten by mosquitoes at night, it is necessary after sundown to wear mosquito boots reaching up to the knee and to sleep under a net which must have no tears. The net must be hung inside the bed frame and tucked in under the mattress.

In any district where there are mosquitoes it is essential to take prophylactic doses of quinine to kill any parasites which may have gained access to the blood before they have increased sufficiently to cause fever. Quinine should be taken either during or after meals, and either 5 grs. daily should be taken or 15 grs. (5 grs. three times a day) on two consecutive days every week, e.g. Saturday and Sunday.

Quinine both in tabloid form and in powder can be purchased at all post offices in the Territory.

Blackwater fever is a development of malaria, generally in cases where quinine is used inadequately or not at all. It is recognized by the dark or port-wine colour of the urine. It is sometimes thought to be caused by quinine, which is a mistake, but it does not infrequently happen when a large dose of quinine is taken after long abstention during a bout of malaria. The disease is serious, and a doctor should be sent for at once. In the meantime the patient should remain in bed and take 3 grs. of calomel. Complete rest in bed (i.e. bed-pan and bottle should be used, and not even sitting up in bed

should be allowed) is essential, and a copious fluid diet of milk, barley water, bovril or water should be taken. On no account should any long journey be undertaken for the removal of the patient into hospital.

Skin Diseases and Wounds.—*Jiggers* are sand-fleas, the female of which burrows into the skin to hatch out her eggs. The invasion of the skin by the pregnant female flea causes itching, irritation and, finally, painful inflammation and suppuration. Jiggers are mostly plentiful in sandy places, or where there is dry powdery red soil. They swarm in old houses that have been left unoccupied for some time, or in new houses from which the native workmen have just departed. The removal of the parasite must be performed with a clean needle, and the small wound then dressed with weak Pot. Permang. or other antiseptic solution. The toes and feet are generally attacked. Prevention can be exercised by wearing long boots in places likely to be infected, *e.g.* old camping grounds, native huts, fowl yards, etc. It is advisable never to stand or walk barefooted in the house. The floors of all houses should be frequently washed with disinfectant solution. When there is any feeling of itching or irritation about the feet the native servant should be made to examine the feet and, if necessary, extract the insect. Native boys are usually very skilled in dealing with a jigger that has gained an entrance. The hands of the operator as well as the invaded part or parts should be carefully cleansed before the removal of the parasite is undertaken.

Scabies, or the itch, is occasionally met with, though cleanliness is, as a rule, an efficient safeguard against it. It is due to the burrowing of a small mite beneath the skin, generally between the fingers or toes, or round the wrist. The treatment is to scrub the skin well, in these parts particularly, with soap and hot water and then rub in sulphur ointment. This should be done morning and evening.

Wounds and even the slightest injuries, such as cuts or scratches, should be washed at once with antiseptic, as neglect may lead to disablement.

Sleeping Sickness.—The distribution of sleeping sickness is limited to certain portions of five of the eleven different

provinces of the Territory. The areas involved are the following:

The Maswa-Ikoma area of the Mwanza Province.

The Ufipa-Tabora area, which is partly in the Kigoma and partly in the Tabora Province.

The Liwale area of the Lindi Province.

The Rovuma area, which is partly in the Lindi and partly in the Mahenge Province.

The littoral of Lake Tanganyika in the Kigoma Province.

The forms of sleeping sickness that occur are due to the varieties of organism known as *Trypanosoma Rhodesiense* and *Trypanosoma Gambiense*. The species of tsetse-fly that convey the infection belong to the *Glossina Morsitans* and the *Glossina Palpalis* group, the *Morsitans* group transmitting, so far as is known, Rhodesiense sleeping sickness, while the *Palpalis* group transmits the Gambiense type.

Sleeping sickness, due to one or both of these organisms, has existed as an endemic disease in Tanganyika and its neighbouring countries for a considerable period of time. Epidemic outbursts have, however, been infrequent and circumscribed of recent years.

During the German occupation of Tanganyika, Gambiense sleeping sickness occurred with some severity along the shores and feeder streams of Lake Nyanza and Lake Tanganyika, but the energetic and extensive measures which were then taken eliminated the disease in the former area, and up to the present there has apparently been no recurrence.

On Lake Tanganyika a few scattered cases have been found from time to time, some of which have been traced definitely to sources beyond the borders of the Territory. The situation offers little menace to the tourist, but it is advisable to avoid the fly-infested portions of the lake shore.

The other areas mentioned above are Rhodesiense areas.

In the Liwale district a small focus of infection was said to have been known to German investigators. Since 1924 active measures have been undertaken, and while some cases still occur, the numbers do not warrant the whole-time services of a medical officer at this remote and unimportant centre.

The Rovuma area, which adjoins the northern bank of the Rovuma River, although known before the war to be an endemic area, has so far produced only two cases.

The main part of the sleeping-sickness work in the Territory has been conducted in the Maswa-Ikoma and Ufipa-Tabora areas. The former occupies part of the hinterland which lies to the east of Lake Nyanza. The first known case that occurred was during 1918, and nothing further happened until 1922, when a number of cases were found in the neighbourhood of Maswa. The sick were evacuated into fly-free areas, while treatment centres were established and operations for the clearing of bush were maintained. During 1924 the infection was found to exist also at Ikoma. Similar measures combined with extensive clearings, which were maintained and extended in subsequent years, have reduced the occurrence of cases to the sporadic stage, and this area, except in places where fly may still be found in numbers, is comparatively safe. Information on the subject should be sought at Mwanza, Shanwa, Maswa and Ikoma before visiting the vicinity for shooting or other purposes.

The Ufipa-Tabora area, in which sleeping sickness had been suspected for some time, was investigated during 1924. In 1925 it was considered that the disease had spread towards the north, and that some ten thousand square miles of country were involved. Apart from the usual methods of the segregation and treatment of the sick the natives were removed and settled into several large clearings made in selected areas free from tsetse-fly. These clearings ultimately totalled about forty-two square miles in extent and a substantial reduction of the disease resulted. Unfortunately, however, while the situation to the south of Tabora was satisfactory, a further extension had made its way in 1928 to the Urambo and Kahama districts, which lie to the north of the province, and the preventive measures just described had to be repeated and elaborated in this part also.

A thorough scheme of agricultural surveys and resettlement of natives in suitable fly-free areas, combined with clearing of portions of fly-infested main roads, was completed, and several treatment centres at which Bayer "205" (the

drug commonly used in the treatment of the disease) was administered on a large scale were established during 1929.

Stocks of Bayer "205" are available at the following places:

Arusha	Kigoma	Nzega
Biharamulo	Kilwa	Sikonge
Bukoba	Lindi	Songea
Dar es Salaam	Liwale	Tabora
Ikoma	Mahenge	Tanga
Iringa	Maswa	Tukuyu
Itigi	Musoma	Ushirombo
Kahama	Mwanza	

The tsetse-fly is somewhat larger than a house-fly. It possesses a definite proboscis, keen appearance and agile movement. The wings are folded one over the other, like a pair of scissors when the blades are closed.

Travellers passing through fly-belts should wear boots and putties, provide themselves with fly switches, and keep a sharp look out to see that they are not bitten. It should be noted that only a small proportion of tsetse-fly are infective.

If cases are treated early, namely, within two to three weeks of acquiring infection, cure is almost certain. Immediate medical advice should be sought by those who have been in any of the areas in which sleeping sickness is prevalent, if they develop any severe fever which shows no sign of return to the normal within a week after adequate treatment with quinine.

Funds have been provided for opening a research station, in charge of a director, assisted by a trained protozoologist and a medical officer, at Maswa in the Mwanza Province for the biological study of certain species of trypanosomes.

Sunstroke can be avoided by the use of a helmet between the hours of 8 A.M. and 4 P.M. and by the protection of the spine from the direct rays of the sun. Sunstroke is often taken for malaria and vice versa, as the effects of the sun are felt very much more by persons suffering from malaria; hence mild malaria is often attributed to "a touch of the sun", treatment of quinine omitted and recovery delayed. A doctor should be

consulted when possible. If it is certainly sunstroke, no quinine should be taken as it aggravates the headache. Rest in bed and very light diet are necessary. Aspirin or phenacetin, 5 to 10 grs., are the best remedies for the headache and reducing the temperature. This and keeping the bowels open generally is all that is required. In severe cases where there is collapse stimulants may be needed, and where the temperature is very high cold sponging is usually advisable.

Tick Fever.—The symptoms of tick or spirillum fever are practically the same as those of malarial fever, except that they are usually more severe than in ordinary malaria and they begin and end more suddenly. The cause of the disease is the bite of the infected tick of the genus *Ornithodoros*, which transmits the spirillum parasite into the circulation of the victim. With the exception of the Pangani, Tanga and Lushoto districts, the spirillum fever tick is widely distributed throughout the Territory: it is found more particularly at the camping grounds and huts and along the main routes in the following districts: Bagamoyo, Morogoro (especially on the Kilosa-Iringa Road), Songea, Rungwe, Ufipa, Kigoma, Tabora, Mwanza and Lindi (especially near Mtwi). Travellers by rail are not likely to be affected. It is chiefly those undertaking foot "safaris", who camp at or near native villages and employ native porters, who may be exposed to infection, and old camping grounds and rest-houses should therefore be avoided. Bedding should be thoroughly examined for ticks before dark, and mosquito curtains should be well tucked in when retiring for the night, as the ticks are most active at that time.

This tick is dusty brown in colour. It varies in size up to about three-eighths of an inch in length and is slightly narrower in breadth and is bluntly oblong in shape. It shows a wrinkled dorsal surface and has an indentation on each side, not quite at its middle, which divides this surface roughly into a larger and smaller portion. Its head is hidden under its body, as are its legs, which are light creamy yellow in colour, fine and delicate looking, and of which only the terminal joints are seen. The ticks hide in cracks and crevices during the day and emerge at night for the purpose of feeding. In infected areas

the infection is conveyed to the young tick through the eggs, so that all the ticks are probably infective. The life of a tick kept in captivity without food, so far as has been observed, extends to over a period of six years; and although during this time the tick may appear to be dead, a little moisture added to the tube containing the tick revives it to activity. They must therefore be regarded as very tenacious of life.

It does not follow that because one has been bitten by a tick that infection has been acquired, because over large areas of the Territory the tick does not carry infection; but should there develop, after a bite, a definitely high temperature which shows no response to ten grains of quinine taken three times a day, or which drops after three or four days and returns again after a similar period, medical aid should be sought at the nearest hospital. Even if untreated, few cases are fatal, and in the vast majority treatment means certain and early recovery.

(b) EDUCATION

History
of native
education.

Under the German educational system natives received education both in Government and mission schools, the number of pupils in attendance at the principal Government schools before the war being about 2,500, while some 3,700 pupils attended the Government elementary schools. There were also about 110,000 native children on the registers of the 1,800 schools conducted by missionary societies. The teaching staff of the German Education Department was composed of sixteen European and one hundred and fifty-nine native teachers.

The almost complete cessation of educational facilities during the war created a gap which took time to bridge, the principal difficulty experienced during the period of reconstruction being the absence of trained teachers through whom a new European staff could work. Not only had the old teachers dispersed to their homes or entered other employment, but the education of the more promising boys, from whom, normally, new recruits to teaching would have been obtained, suddenly came to an end. Thus there were literally no foundations on which to build a new educational structure, and reorganization

was necessarily slow. It would have been folly to invite increased attendance or to open new schools under partially trained teachers remote from European supervision, unless the standard of instruction was to be merely rudimentary and quality was to be sacrificed to figures which might have been impressive but would certainly have been misleading.

The first efforts, therefore, of the Department of Education, which came into being at the end of 1920, were directed to tracing and reassembling those natives who had had previous teaching experience, as well as the more efficient scholars whose work had been interrupted by the war, and to forming the nucleus of a teaching staff which, after a refresher course of instruction, would be competent to carry on until a new generation of teachers had gone through the schools. In common, also, with other branches of Government, the Education Department was hampered at the outset by financial stringency, but in the last five years very rapid progress has been made in the organization of a system of elementary education and the establishment of village and central schools. The staff, which at the end of 1922 consisted of two Europeans, has now expanded to fifty-four, with two hundred and thirty-eight African teachers and forty-eight industrial instructors engaged in educational work.

At the end of 1925 a very important change of policy took place in regard to the relations between the Government and missionary societies in educational matters. Hitherto, the Government had been content to accept responsibility only for those educational enterprises organized and conducted at Government expense, but from that time forward it decided to incur the obligation, which has been implemented in full, of guiding the secular educational activities of missionary bodies and of granting financial assistance towards the conduct of those activities, provided they were carried on in accordance with a uniform scheme and reached an approved standard of efficiency. A grant-in-aid code was framed under which grants could be made to mission societies in respect of certain recognized types of schools, based on the number of qualified European instructors, the salaries of the native teachers employed, the efficiency of the school and the cost of maintenance. The

sum provided in the estimates for this purpose has risen from £15,000 in 1926-27 to £35,000 in 1930-31. An almost immediate result of this promise of financial assistance was the reinforcement of the mission staffs by a number of qualified educationists. For the maintenance of co-operation between the Government and the missions, and to secure continuity of policy on educational matters, a Central Advisory Committee on native education was appointed in 1926, consisting of representatives of those Government departments which are more particularly concerned with the training and apprenticeship of Africans, of the missionary societies, and of commercial and planting interests. Two Africans also serve on the committee, of which the Director of Education is chairman. The central committee is assisted by provincial and district committees, the composition of which is on much the same lines as the controlling body.

The legislation which governs the grant of financial assistance to missions and the registration of schools and teachers is the African Education Ordinance (Chapter 52 of the Laws).

The following table shows the total annual expenditure on education from the establishment of the Department, the percentage of the revenue and also of the hut and poll tax (viz. direct native taxation) spent on this service, and the amount spent on education per head of population:

Year.	Total Expenditure on Education.	Percentage of Total Revenue spent on Education.	Percentage of Hut and Poll Tax spent on Education.	Amount spent on Education per Head of Population.
1921-22	£8,058	0.82	2.30	0.47d.
1922-23	9,359	0.76	2.30	0.77
1923-24	13,156	1.00	3.20	0.88
1924-25	18,851	1.20	4.21	0.91
1925-26	28,491	1.44	4.22	1.58
1926-27	45,923	2.08	6.73	2.55
1927-28	59,682	3.21	8.44	2.94
1928-29	84,567	4.51	11.83	3.46
1929-30*	95,000	4.99	12.89	4.67
1930-31*	127,211	6.19	16.71	6.25

* Estimated.

NOTE.—These figures do not allow for capital expenditure on the construction and repair of school buildings, houses, etc.

Village schools are conducted under the auspices both of the Government and of the missions, and are designed to provide an elementary education for the native peasantry whose inheritance is the land and for whom an advanced literary training is not suitable. At the same time, they offer opportunities of advancement to the more promising pupils, who can proceed to the Central Schools, where a higher standard of education prevails. They are conducted by a native staff, and their curriculum includes elementary education in the vernacular up to Standard II., agricultural and garden work, and, in many cases, native handicraft. Closely allied to these schools are the Native Administration schools, the cost of which is largely met by the native treasuries in whose districts they are established. They are village schools intended primarily for the sons of sub-chiefs and headmen, the management being largely in the hands of the Native Administration concerned. The intention of these schools is to inculcate in the teaching and life of the school the principles of native administration and to arouse local interest in education.

A more advanced training is given in the Central Schools, which provide either a four years' English course up to Standard VI. or a four years' industrial course. These schools are under European management assisted by a native staff, and are, for the most part, boarding schools. There are in the Territory eight Government Central Schools for natives, in addition to nine Central Schools maintained by missions. The curriculum either prepares boys for the school certificate examination or passes them out as trained artisans or agriculturists. The possession of the leaving certificate enables boys wishing to take up a clerical career to compete for the African Civil Service or to find occupation in business firms or with planters who require English-speaking clerks. A commercial course has been started to give instruction in type-writing, shorthand and book-keeping, a high standard of knowledge being insisted upon. The needs of the Territory for this class of employee are not likely to be met for many years. The most important work of the Central Schools, however, is industrial, for which there is no lack of candidates,

though these are by no means sufficient to meet the almost unlimited demand in the country for trained artizans. Pupils on the industrial side are apprenticed for four years to one of the following trades or occupations: carpentry, bootmaking, tailoring, masonry, printing, metal work, motor mechanics, medical work, surveying, blacksmithing and telegraphy.

A system of apprenticing boys destined later to take up work in the technical departments of the Government is still in its infancy, but promises to be a success. Recruits for the Public Works Department, the Government Press, the Railways, the Medical, Survey and Postal Departments receive a preliminary training for their future occupations under the apprenticeship scheme of the Central Schools, and are afterwards passed on for employment and further training to the departments in which they are likely to find their vocation.

In agricultural areas agricultural work forms an important part of the curriculum under Education Officers with agricultural training. Some schools own a herd of cattle, and instruction is given by members of the Veterinary Department in animal husbandry, cattle diseases and in the improvement of stock by the introduction of grade or half-bred cattle. Instruction is also given in butter and ghee making and in more cleanly methods of milking. The institution of "tree days" in all schools should bring home the importance of reafforestation, particularly in those districts which have suffered from the wanton destruction of forests by the axes of a former generation.

Teachers' training schools.

There is a Government School for the training of teachers at Mpwapwa to which pupils from Central Schools are admitted for training either as Grade I. or Grade II. teachers. The course for the former extends over four years, and aims at qualifying young men to be teachers of English. The Grade II. course, which is in the vernacular, lasts for two years, and pupils who desire to take up the teaching profession and who, by the time they pass out of Standard II., are considered too old to undertake the English course, are selected for this work.

The Grade II. teacher is drafted to a village school on completion of his course of instruction, and is considered fit

to teach up to Standard II. The creation of these low-grade teachers is a necessary but temporary measure to enable elementary education to continue as well as it can until more highly trained teachers are available.

The Universities Mission to Central Africa, the Church Missionary Society, the Seventh Day Adventist Mission, the Leipzig Lutheran Mission, the White Fathers, and the Benedictine Fathers have schools for the training of native teachers in various places in the Territory.

There are Government Schools for native girls at Tabora and at Malangali in the Iringa district, but female education is mainly in the hands of the missions. Special care is devoted by certain mission bodies to the training of native women for child welfare and maternity work, and, in this connexion, mention must be made of the Africa Inland Mission at Shinyanga, where a very high standard in medical and infant welfare work is maintained.

In all there are ninety-five Government Schools for natives in the Territory with an average monthly attendance of 5,500.

There are 2,903 schools maintained by the various missionary societies with an average attendance of about 90,000. It is estimated that close on £40,000 a year is spent by the missions on education.

In January, 1923, a monthly newspaper named *Mambo Leo* was started by the Government for natives. The paper, which is edited by the Education Department, is written in Swahili and is published at cost price. It aims at being educational and instructional, containing, in addition to news of the world and articles on current affairs and subjects of local interest, official contributions on agriculture, sanitation, etc. The circulation quickly rose from 2,000 on its foundation to about 9,000, at which figure it has a steady circulation.

The coastal belt and the more low-lying districts of the interior are not suitable for prolonged residence by children, who are generally sent home at the age of six or seven to be educated, and it is only in the highland areas, where children can thrive, that anything beyond elementary educational facilities is required. Until quite recently no facilities have

been available for European children, of whom there are about one thousand of different nationalities, and the children of settlers in the northern area have, as a rule, been sent to Kenya, where good schools exist. But provision has now been made for the establishment of a boarding school for European children in the healthy highlands of Arusha, at which higher education will be given, and an annual cess of Shs.30 per head for the purpose of non-native education has been authorized by the Non-Native Education Tax Ordinance of 1930. Even so, transport difficulties must continue to influence parents resident in the south and centre of the Territory, who will probably still send their children to Europe to be educated.

At the moment of writing, facilities for the education of European children are as follows:

Dar es Salaam.—A junior European school was opened in September, 1927, and is conducted by Government. Twenty-seven children of all ages are at present in attendance, but the numbers fluctuate in accordance with the leave movements of parents who are almost entirely in the employ of Government or commercial houses. The curriculum covers kindergarten subjects and the usual elementary school work.

The Convent School of St. Joseph, Dar es Salaam, conducted by the Roman Catholic Capucin Fathers, which admits European and also Goanese children, was opened in July, 1928, and has on its roll just over one hundred children. In all, ten different nationalities are represented in the school. The organisation of the school, which is state-aided, is excellent and the standard of work satisfactory.

At Tanga there is a small junior school, organized by a committee of ladies, which is assisted by Government. Here, also, the population is largely a floating one and the numbers vary considerably from time to time.

At Moshi a boarding school for girls and boys was started by the Church Missionary Society in December, 1928, primarily for the children of settlers in the Ngare Nairobi area. The school, which is state-aided, takes pupils from elementary education up to matriculation standard.

The German communities in the Tanga and Iringa Pro-

vinces have established schools at Vuga, Sunga and Mtumbi in the Usambara district, and at Lupembe in the Iringa district.

The Dutch community at Arusha has for many years maintained schools for its children. Three schools exist, and are subsidized by the Government.

A system of education by correspondence was initiated by Government in May, 1929, for the benefit of children living at great distances from school centres. The system is managed by a lady superintendent from the headquarters of the Education Department in Dar es Salaam and, on an average, a dozen European children receive instruction in this manner.

An advisory committee on European education was appointed in March, 1930, consisting of the Director of Education and seven unofficals.

State assistance towards the education of Indian children commenced in 1926, when a grant of £3,000 was made by Government towards the establishment of an Indian Central School in Dar es Salaam on condition that an equal amount should be furnished by the Indian community. The actual cost of the school exceeded the estimate by £2,000, and this additional sum was found from Government funds. The school was completed in 1929, and is open to Indians of all denominations. There are 215 pupils now on the roll. The medium of instruction in the lower forms is Guzerati or Urdu and, in the higher forms, English, with the object of enabling students to sit for the London University Matriculation examination. A grant-in-aid code, on the lines of that drawn up for native education undertaken by missionary societies, was published in 1929, and financial assistance is given by Government to approved schools for the payment of staff, building and equipment, and in the form of block grants for attendance. There are small elementary schools in the provinces which are maintained by the Indian communities there, of which those at Arusha, Dodoma and Tanga have qualified for the grant of a subsidy under the grant-in-aid code. In all, just over 1,700 Indian children are recorded as attending the twenty-four Indian schools in the Territory. An advisory committee consisting in the main of Indian

residents has been appointed to assist the Director of Education in regard to Indian education.

Boy Scouts
and Girl
Guides.

At Bukoba there are two troops of native Boy Scouts who are members of the Bukoba Central School, and at the Indian School in Dar es Salaam is a troop of twenty five Scouts. A troop of Girl Guides has been started at the European School at Ngare Nairobi in the Moshi district.

(c) MISSIONS

Missionary
enterprise in
Tanganyika.

Missionary activities in Tanganyika started as the result of Livingstone's call to Oxford and Cambridge in 1857 to join in making Africa "free, civilized and Christian", an appeal which led to the creation of the Universities Mission to Central Africa. The original aim of this Society was to reach the tribes round Lake Nyasa by way of the Rovuma River, but as this road to the lake proved impossible, a new attempt was made by way of the Zambezi. War, famine, fever and death wrecked this promising enterprise, and the headquarters of the Mission were moved to Zanzibar in 1864. From there the first attempts were made to penetrate the hinterland, and after three efforts a station was established at Magila, in what is now the district of Tanga, in 1875. In the meantime the Roman Catholic Fathers of the Holy Ghost had landed at Bagamoyo in 1867, and after great difficulty secured a site for their church on a marshy spot to the north of the present township. Here they erected a hospital and an industrial school, and introduced plants such as coffee, which was, later, to flourish in their mission stations in the more equable climate of the highlands. The buildings were wiped out by a cyclone in 1872, but were quickly rebuilt, and it was at the door of the old church, which still exists, that a party of weary porters arrived one morning in 1873 and deposited the remains of Livingstone at the feet of the Father in charge. Pushing into the interior, the Fathers founded a station in 1877 in the Turiani hills of the Morogoro district, the first of a long chain of missionary posts which were soon to stretch to Lake Tanganyika. In the following year a party of missionaries of the Société des Missionnaires de Notre Dame of Algeria

(known on account of their garments as the White Fathers) arrived and reached Tabora. Here they divided, one section seeking Uganda in the north and another Ujiji on Lake Tanganyika.

Meanwhile, the Universities Mission to Central Africa in 1876 and 1877 established settlements at Masasi and Newala in the present Province of Lindi, while in 1882 the Reverend W. P. Johnson reached the shores of Lake Nyasa, on the waters of which he launched two mission steamers which still ply up and down the lake.

In 1887 the Benedictine Order of St. Ottilien, from Bavaria, entered the mission field and took over the evangelization of most of the southern area, including the capital which was to be. Taking advantage of the offer by the German Government in 1900 of a central site in the township of Dar es Salaam, the Order built the handsome edifice which is known to-day as St. Joseph's Cathedral.

The Church Missionary Society, founded in 1797, had, quite early in the nineteenth century, turned its attention to Eastern Africa, and after several years of fruitless work in Abyssinia opened a mission station at Rabai, near Mombasa. In Tanganyika it sent workers to the Wagogo, and is now firmly established in the Kilosa district and in the Dodoma district of the Central Province.

With the awakening of German interests in this part of Africa came the Lutheran missionaries of the Berlin Mission, which began work in the southern area near Lake Nyasa in 1891, and in 1903 took over the work of the Bethel Mission on the coast, with stations in Dar es Salaam and its district.

By 1914 there were few areas in German East Africa which were not served by missionary bodies of one denomination or another, and a tribute must be paid not only to those pioneers who, in the early days, made their way through unknown parts, braving hostile tribes, death and disease, but to those who have carried on their work, bringing to thousands both spiritual light and the humanizing influences of medical attention and education.

The war wrought havoc among the mission stations, not a few British and German missionaries being interned in

succession, the former on the outbreak of war by the German authorities, and the latter by the advancing British forces. In accordance with the Treaty of Versailles the ex-enemy missions were handed over to missions of the same denomination but of allied or neutral origin, though, even before the Armistice, the German Benedictine missionaries were replaced by French and Swiss workers, while some of the German Lutheran missions were taken over, temporarily, by British societies such as the Church of Scotland and the Wesleyans. The Government of Tanganyika has agreed, however, to the return of the ex-enemy missions to their former owners, most of whom are now in active occupation of their old properties, though legislative sanction to the transfer still waits completion.

The following Church or Missionary bodies are working in the Territory:

	Estimated Number of Adherents.
English Church, Dar es Salaam (Church of England. A resident chaplain is appointed by the Bishop of Zanzibar)	
Universities Mission to Central Africa (Church of England)	29,000
Church Missionary Society (Church of England)	15,000
London Missionary Society (Congregational)	2,000
Berlin Mission (Lutheran)	11,000
Leipzig Mission (Lutheran)	14,000
Augustana Lutheran Mission (Lutheran)	700
Neukirchen Mission (Lutheran)	200
Seventh Day Adventists	1,300
Africa Inland Mission	2,500
Moravian Mission (Moravian Church)	9,000
Bethel Mission	6,500
The White Fathers (Roman Catholic)	88,000
The Fathers of the Holy Ghost (Roman Catholic)	60,000
The Capucin Fathers (Roman Catholic)	16,000
The Italian Fathers of the Consolation (Roman Catholic)	7,000
The Benedictine Fathers (Roman Catholic)	40,000

Anglican
dioceses in
Tanganyika.

The Anglican Missions fall into three dioceses, that of Zanzibar, which comprises the Eastern and Tanga Provinces, the headquarters of the diocese itself being in Zanzibar. The present Bishop is the Right Reverend T. H. Birley, appointed in 1925.

The diocese of Masasi, which comprises the Lindi Province, was recently created, having been separated from the diocese of Zanzibar. The See of the diocese is at Masasi, and the present Bishop is the Right Reverend W. V. Lucas, appointed in 1926.

The diocese of Central Tanganyika covers the work of the Church Missionary Society mainly in the Central Province, but extends to other parts of the Territory which were previously included in the diocese of Mombasa. The diocese is staffed and funds for its maintenance are provided by Australia. The See is at Dodoma, and the present Bishop is the Right Reverend G. A. Chambers, appointed in 1927.

There are nine Roman Catholic dioceses or prefectures in Tanganyika, as follows:

Bagamoyo (including Morogoro), under a bishop of the Fathers of the Holy Ghost.

Tabora, under a bishop of the White Fathers.

Mwanza, under a bishop of the White Fathers.

Bukoba, under a bishop of the White Fathers.

Tanganyika (Kigoma and the Lake) under a bishop of the White Fathers.

Kilimanjaro, under a bishop of the Fathers of the Holy Ghost.

Lindi and Songea, under an abbot of the Benedictine Society.

Dar es Salaam, under a bishop of the Capucin Order.

Iringa, under a Prefect Apostolic of the Italian Fathers of the Consolata.

CHAPTER XII

COMMERCIAL LEGISLATION; BIRTHS, DEATHS AND MARRIAGES

Bankruptcy. A new Bankruptcy Ordinance was enacted in February, 1930, repealing the Ordinance of 1920 which conferred upon the High Court jurisdiction in bankruptcy to be exercised on the lines of the English law on the subject. The new Ordinance is modelled on the Imperial Act of 1914, which was modified to suit local conditions. Similar legislation is being enacted in Kenya and Uganda, and a feature of the Ordinance is that a person who is adjudged bankrupt in one of the three territories and has property in any of the others shall be adjudged bankrupt in each territory in which he has property, and that the assets in all such territories become available and are pooled for the benefit of all creditors in those territories. There will, in short, be no longer any need for concurrent bankruptcies in Kenya, Uganda and Tanganyika, as there will be one bankruptcy proceeding affecting all the assets and liabilities of the debtor in East Africa.

Business names.

Under the Registration of Business Names Ordinance, 1930, which is modelled, with the addition of slight innovations, on the Imperial Act of 1916, persons and corporations trading under business names which differ from their true names are compelled to register themselves. Applications for registration should be made to the Registrar of Business Names, Dar es Salaam.

Companies.

The Indian Companies Act of 1913 was applied to the Territory in 1920 (Chapter 111 of the Laws), its provisions being very similar to those of the Companies Consolidation Act of 1908. The fees for the registration of a company are as follows:

Where the share capital does not exceed £2,000, Shs.40; for every £1,000 of nominal share capital or part of £1,000, after the first £2,000 and up to £5,000, Shs.20; for every £1,000 of nominal share capital or part of £1,000 after the first £5,000 up to £100,000, Shs.5; for every £1,000 of nominal share capital or part of £1,000 after the first £100,000, Sh.1.

Fees for companies not having share capital, for filing and inspecting documents, for certified copies, etc., are given in detail in the Blue Book. Application for the registration of a company should be made to the Registrar of Companies, Dar es Salaam.

A Patents and Designs Ordinance was enacted in 1928 ^{Patents and designs.} (Chapter 96 of the Laws), but has not been promulgated owing to the absence of local facilities for the original registration of patents. Patents cannot, therefore, be registered in the Territory at present as the Ordinance is dormant. A new Ordinance is likely to be enacted dispensing with original registration locally and permitting the registration in Tanganyika of patents registered elsewhere.

The Trade Marks Ordinance enacted in 1922 (Chapter 97 ^{Trade marks.} of the Laws) is very similar to the trade mark legislation in England. Application for the registration of trade marks should be made to the Registrar, Dar es Salaam. The fees payable will be found in the Blue Book.

The law relating to the registration of births and deaths is ^{Births and deaths, Registration} contained in the Births and Deaths Registration Ordinance (Chapter 91 of the Laws). The registration of the birth of a ^{of.} child is compulsory if either one or both parents are of European or American origin, the registration of the births of other nationalities being optional. The registration of the death of every non-native is compulsory, but the compulsory registration of births and deaths may be extended to all persons in the Territory of any particular race, class, tribe or other group.

Registration of births and deaths is effected by the informant giving the prescribed particulars to the Registrar, either in person or by post.

On payment of the prescribed fees a certified copy of any entry in any Register of Births and Deaths may be obtained,

which copy, if certified in the prescribed manner, is admissible in evidence without proof.

The Administrator-General is the Registrar-General of Births and Deaths and the Administrative Officer in charge of a district is the District Registrar. There are forty-six District Registries.

The fees payable under the Ordinance are:

- | | |
|--|---------|
| (1) For the registration of the birth of any child after six months from the date of such birth, where the registration is not compulsory | Shs. 10 |
| (2) For the registration of the name or alteration in the name of any child whose birth has been previously registered | 10 |
| (3) For the registration of a death more than six months after the date of such death, where the registration is compulsory | 10 |
| (4) For the inspection of any register, copy of a register, return or index in the custody of a District Registrar or the Registrar-General, for each year inspected | 2 |
| (5) For a certified copy of any entry | 5 |

Marriage and divorce.

The Marriage Ordinance (Chapter 92 of the Laws) and the Non-Christian Asiatic (Marriage, Divorce and Succession) Ordinance (Chapter 95 of the Laws) regulate the law of marriage in the Territory.

Under the Marriage Ordinance, the Territory is divided into marriage districts corresponding to the administrative districts, and the Administrative Officers are Registrars of Marriages in their districts. The Governor may grant licences to ministers of religion to solemnize marriages in the Territory and may licence any place of public worship to be a place for the solemnization of marriages.

Marriages may be solemnized under the authority of:

- (a) A registrar's certificate.
- (b) A special licence from the Governor.

The regulations governing the issue of these certificates and licences and the celebration of marriages are much the same as in England, but in native Christian marriages certain of the preliminaries may be dispensed with.

The Administrator-General is the Registrar-General of Marriages.

The following fees are payable:

	Shs.
Filing every notice and entering the same	2
On issue of each certificate or certified copy thereof	2
Certifying any extract	4
On every marriage in a registrar's office	4
Special licence	20

The Asiatics (Marriage, Divorce and Succession) Ordinance provides for the marriage of non-Christian Asiatics, whether domiciled in the Territory or not, if the marriage is contracted in the manner customary in the Territory among persons professing the religion of either party to the marriage.

The Divorce Ordinance, 1929, gives the High Court full Divorce jurisdiction in nullity of marriage and divorce over persons domiciled in the Territory.

CHAPTER XIII

GAME, NATURAL HISTORY AND SPORT

(a) THE PRESERVATION OF GAME IN TANGANYIKA¹

THERE are two extremist schools of thought in regard to the preservation of African fauna, the first which favours the enactment of stringent laws for the protection of game and their rigorous observance, even at the expense of native interests and economic development, and the second which holds that as the progress of native and non-native agriculture and game preservation cannot go hand in hand, the game is inevitably doomed to extinction in the course of a few generations, so that protective steps may as well be abandoned. To neither of these policies does the Government of Tanganyika subscribe and the problem before it is to reconcile the reactionary views of the one with the pessimism of the other.

In reviewing conditions as they actually exist, an endeavour should be made to elicit the position as it was before the establishment of any form of European administration in Africa. The tendency among those who hold reactionary views in the matter of game preservation is to forget that the protection of game by legislative or administrative action in Eastern Africa has existed for little more than a quarter of a century and to assume that the relaxation of strict protective measures would result in an immediate diminution and, eventually, in the final extinction of the game at the hands of the natives. But for countless centuries game was hunted on a

¹ The greater part of this sub-chapter was contained in an article by Mr. G. F. Sayers, the General Editor of this Handbook, which was published in *The Times* of 17th October, 1929. The thanks of the Editor are due to *The Times* for permission to reproduce it.



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THE INQUISITIVE RHINOCEROS

large scale by natives with their own weapons, and though any estimate of the numbers killed must be a matter for conjecture, conversations with the old men will draw the admission that the slaughter was both continual and immense. For example, elders of the Kamba tribe in Kenya, whose hunting proclivities were notorious, relate how it was common for a dozen buffaloes to be slain in one drive and how their parties, penetrating southwards to the dense bush along the Sabaki River or northwards to the Lorian Swamp, would follow up or surround a herd of elephant and would account for as many as ten or fifteen in one day. It is not easy, therefore, to follow the argument that permission to allow the native to protect his gardens against destructive game or to hunt in the vicinity of his village with his own rude weapons will result in the extinction of the game, seeing that the game still survives in vast numbers even after the unrestricted killing which took place up to the end of the last century.

The enactment of laws by the European which forbade the killing of game by any persons, except under licence or in self-defence, was a revolutionary measure to those tribes to which hunting was an occupation rather than a pastime, and particularly to tribes like the Wanderobo which were, and indeed are, to some extent dependent on a meat diet, and no Irish jury could have been so reluctant to convict a Land Leaguer as were the tribal authorities in the early days of European administration to bring to light a breach of these regulations. With more intensive administration the situation improved, and as the difficulty of exporting ivory obtained in contravention of the game laws increased, illicit traffic in this article fell to a minimum, though there is no doubt that a fair quantity continued to make its way out of East Africa by devious routes, while even to-day the smuggling of ivory out of the Territory is not unknown. But, generally speaking, it may be said that the game laws have achieved their object and that they are observed by the native with a reasonable degree of accuracy. The organization of Native Administrations, with a growing appreciation of their duties and responsibilities, enables gross breaches of the regulations to be brought to light with greater ease than previously, but the closer

observance of the law is due rather to the fact that the present generation of natives has grown up in the knowledge that hunting is no longer legitimate and, under civilizing influences, has taken to other and more profitable occupations. The ostrich feather head-dresses, the buffalo hide shields, and the war horns made from the noble spiral of the greater kudu are becoming relics of a past age and the vast majority of those that are found to-day are heirlooms handed down by the fathers and grandfathers of the present generation. While fifty years ago the older men of the tribe had little beyond warfare and hunting to occupy their time, the younger are now accustomed, under the stimulus of economic requirements, to go out to work or to find employment at home in agricultural pursuits. So much so that the sportsman who seeks a "kiongozi" will generally find that his guide is a wizened old graybeard who alone of the village inhabitants has a knowledge of the spoor, the habits and the locality of the game. It is, indeed, the agriculturalization of Africa and the development of mechanical transport which constitute the menace to African fauna, and the game will diminish through the peaceful penetration of industry and agriculture into the waste spaces. The European farmer would, of course, take the law into his own hands were he prevented from killing off game which raided his crops, and no government could withstand the outcry which would arise were he prevented from doing so. From the alienated land of Kenya and Tanganyika, which forms more or less a solid block of cultivation, the game has retreated, and if areas which are now gazetted as game reserves are found suitable for agricultural development pressure will inevitably be put upon the governments concerned to throw them open for the purpose. The problem of game preservation in relation to agricultural development was one of the many with which the Government of Tanganyika was faced after the war which, incidentally, contributed not a little to difficulties which existed before 1914. The peace and sanctity of the reserves, in which the elephant had segregated themselves before the war, were disturbed by gun-fire and operations in the course of the campaign, and the herds broke up into small groups which

took to wandering further and further afield and, finding the villages in many cases almost empty of men, invaded the maize gardens and even stripped the roofs from the grain stores while the owners cowered in their huts. Fields of corn were trampled down, and a year's food supply was destroyed in a night; shouting and the beating of drums held no terror for them, and a path a hundred yards broad remained in the morning to mark their passage. The roads, in some instances, became unsafe for native travellers, and mail runners were at times held up owing to the presence of elephant. It is related that an Administrative Officer, bicycling along the main route from Dar es Salaam to the Rufiji, found his passage barred at the bottom of a steep hill by a herd crossing from one pasture to another. Asked what he did, he replied that he merely rang his bell and the elephants moved off; but it would be rash to assume that this warning would always be heeded. Lions showed increasing boldness and the number of deaths from man-eaters became alarming. A theory has been put forward that, feeding on corpses during the campaign, lions had acquired a taste for human flesh which they were determined to satisfy, just as the elephant developed a sweet tooth for the succulent maize cob, but, whether this is true or not, they became contemptuous of man and their boldness was incredible. An officer of the Game Department reported that one night, within a short distance of his camp, a lion leapt into a stockaded village in which several fires were burning, and snatching a boy from under the eyes of the crowd leapt back and devoured him a few yards off in the bush. Uganda and Nyasaland have been faced, though in a lesser degree, with the same problems, and the services of officials of the Tanganyika Game Department have been loaned to those countries to advise on the best methods for the control of dangerous and marauding game.

The economic and political aspect of these depredations became, indeed, one of the highest importance. It was useless to continue to distribute cotton-seed and to endeavour to create a new exportable commodity when the young cotton was eaten at night by antelope, or to stimulate agricultural production when the maize gardens became prospective food

for elephant. The collection of taxes from natives whose foodstuffs had been destroyed became difficult, and in one or two areas the Government was faced with the prospect of affording famine relief. Politically it was felt that manifestations of unrest would follow unless some drastic action was taken to deal with the situation created by these depredations. From the non-native agricultural areas, situated for the most part in the northern part of the Territory, the game had retired to a great extent and the problem had solved itself, but there, too, the damage done by zebra was such that special measures were called for. It may be emphasized here that tolerance of the situation which had arisen would have been a strong card in the hands of those who maintain that the extermination of the game is a necessary corollary to the development of the natural resources of a country, as there is no surer way of creating a body of opinion hostile to game preservation than to ignore its capacity for damage. It became necessary, therefore, to create a special branch of the Game Department to protect cultivation and human life against depredations from garden raiding and dangerous animals, and for the last four or five years there has existed a staff of European Cultivation Protectors whose duty it is, with the aid of native scouts, to drive the elephant into the game reserves, to deal so far as possible with man-eating lions, and to reduce the number of hippopotami which swarm in some of the rivers and create havoc among riparian cultivation.

On the native administrations has devolved the duty of protecting the cultivation of their people against antelope and destructive vermin such as pig and baboons, and they have furnished themselves out of their own funds with shot-guns which can be employed against this kind of intruder into their gardens.

A prolonged correspondence on the subject of game preservation in Africa took place in English newspapers in the summer of 1929 in which the statement was made that the Government of Tanganyika had given out that the game belonged to the native, the inference being that the Government had abandoned responsibility for its protection.

Nothing is further from the truth, and the policy of the Government in regard to the killing of game by natives is the same as that of Kenya, although the provision in the Kenya law has not been embodied in the Tanganyika legislation. The Government does hold, however, that in the normal course of economic progress the game must inevitably retire, and be pressed to retire, to localities where it can reside without damage or danger to man, and that everyone, native or non-native, has a right to protect himself and his cultivation against dangerous or marauding game. It admits, also, that tribes which have been accustomed to supplement their ordinary diet by meat should not be deprived of it so long as the hunter only hunts with those weapons to which his tribe has been accustomed. It is essential that this stipulation should be clearly understood, as it is not for one moment intended that the native shall be permitted to use arms of precision (which he does not in fact possess), or that game drives or wholesale and indiscriminate slaughter should be tolerated, any more than they are in other neighbouring countries. It may be noted that, subject to certain conditions, natives of the Sudan are permitted to shoot game for meat with their own weapons as they have done in the past without any marked diminution, so far as can be ascertained, of the game.

In the foregoing pages, the preservation of game has been discussed mainly from the point of view of protection against native hunting, but there is another danger which imperils the safety of the fauna of Africa, namely, the rapid development of mechanical transport. The correspondence in the English newspapers, to which reference has been made, originated, before its diversion to the larger issue of game preservation generally, in complaints against the slaughter of game from motor cars on the Serengeti Plains, the finest shooting ground in Tanganyika and perhaps in the whole of Africa to-day. It is a regrettable fact that a few isolated instances occurred of the wanton destruction of lions and antelope in that manner, and passed undetected and unpunished owing to the difficulty of patrolling so vast an area with a limited staff of game rangers. The act of hunting game from

motor cars or aeroplanes has always been an offence against the game laws since the Ordinance of 1921 was promulgated, but it has been necessary, recently, as the result of behaviour which every sportsman will unreservedly condemn, to tighten up existing legislation in this respect. Apart from this, there were not wanting correspondents who deplored the facility with which the hunting grounds could be reached in these days of quick transport and who advocated, indeed, that hunting parties should be restricted to the use of porter transport in their travels and should, thus, have less time in which to hunt. But apart from the difficulty of discriminating between persons whose business might be surveying or prospecting and those who intend primarily to hunt, the employment of such a mode of travel is archaic, and the Government is, in fact, empowered by law to prevent the use of human transport where mechanical means are available. This solution, then, is out of the question, but, at the same time, the accessibility of the haunts of the game and the celerity with which a shooting expedition can, in these days, accomplish its work must of necessity lead to a reduction of all those species which are not protected by remoteness from motor routes or by the general lie of the land. An instance will illustrate the change in conditions in the last thirty years. In 1900 a shooting party landing at Tanga and making for the Ngorongoro Crater in the Arusha District would have had to make their way almost entirely by porters, taking, at least, twenty to thirty days on the march. Five years ago they could have covered more than half the journey by train and a quarter by car, and have reached the Crater within, say, a week of landing. To-day they can entrain to Arusha and fly, if they wish, to their destination, in two days from the coast. In an age where time is money, no one should deplore the conveniences which place big game within the reach of the busy man as well as within that of the more fortunate being with ample leisure to spare. It may, however, be necessary at some future date to reduce the number of species which may be shot under licence, as the existing schedule is, in many respects, over-generous. To do so will be the logical consequence of the march of civilization in East Africa,

but, as against this, it is noticeable that quite a number of parties to-day find more pleasure in the photography of big game than in the collection of heads, an occupation in which all the thrills and dangers of big game shooting are experienced without the destruction of the species. In conclusion, therefore, it may be stated that while the preservation of the fauna must be definitely subordinated to economic progress and the march of civilization, a conclusion which is not confined to Africa, the game will, of its own accord, withdraw to areas reserved for it which are inaccessible or unsuitable for cultivation, and it is within those natural parks that its existence can be preserved for posterity for all time.

(b) THE GAME ANIMALS OF TANGANYIKA

EAST AFRICAN BUFFALO (*Bos caffer radcliffei*)

Native names: Kiswahili—*Nyati* and *Mbogo* in all local dialects.

While parts of the Territory are devoid of buffalo, this animal is, on the whole, widely distributed. It is found throughout the western districts from Bukoba to Rukwa, thence up the Ruaha and through the Saba Game Reserve to Singida, also in Kondoa and Kibaya, on the Wembere Steppe, in Mkalama, south-east Shinyanga, south Mwanza, at Mbulu and Mbugwe in the Northern Province and at points further north on the Rift Wall. It is prevalent at Shamburai, south-east of Arusha, and in the mountain forests of the whole north of the Territory from Arusha to Tanga, and thence southwards through the various coast districts and extending back to the Iringa border, but becoming, perhaps, most abundant in the Kilosa and Mahenge districts. Very fine horns have been obtained at Mbugwe, Shamburai and many places in the south.

Despite considerable losses at times from rinderpest—and a buffalo with rinderpest is liable to charge at sight—buffalo are greatly on the increase, especially from Kilosa southwards, so much so that it was thought well in 1928 to remove them from the list of protected game.

The buffalo is generally regarded as the most dangerous of

African game, and to the real sportsman, who is also an accurate, quick and confident shot, buffalo hunting in difficult country is nowhere to be surpassed. A locality like Mbugwe or Kilosa, where the buffalo come out of their thickets to feed in the open glades or clean-stemmed savannah country, is ideal, but the utmost caution must be observed in following a wounded animal through thicket or high grass. Wounded animals will not infrequently return on their tracks and await their pursuers in or behind dense bush. A heavy rifle, and one in reserve, is advised for any such work, and the novice should on no account follow at all.

In horn-measurement the local buffalo are second to none, and very fine heads have been obtained at Rasha-rasha, near Arusha, at Mbugwe and at various points in the south. There is great variation in the shape of the horns, even within a herd, and several "races" described as such by the Germans are certainly merely individual variations.

EAST AFRICAN ELEPHANT (*Loxodonta africana*)

Native names: Kiswahili—*Tembo* and *Nzou*. Chigogo—*Nhembo*. Kinyamwezi and Kisukuma—*Mhuri*. Kizigua—*Ntemo*. In Bukoba—*Njoju*.

Though it is difficult to make any accurate estimate of the number of elephant in Tanganyika, it is considered that the Territory possesses 30,000 of these magnificent animals.

Many calves are seen with the herds, and it is certain that the elephant population is on the increase. On the other hand, elephants carrying heavy tusks are now rare and far between.

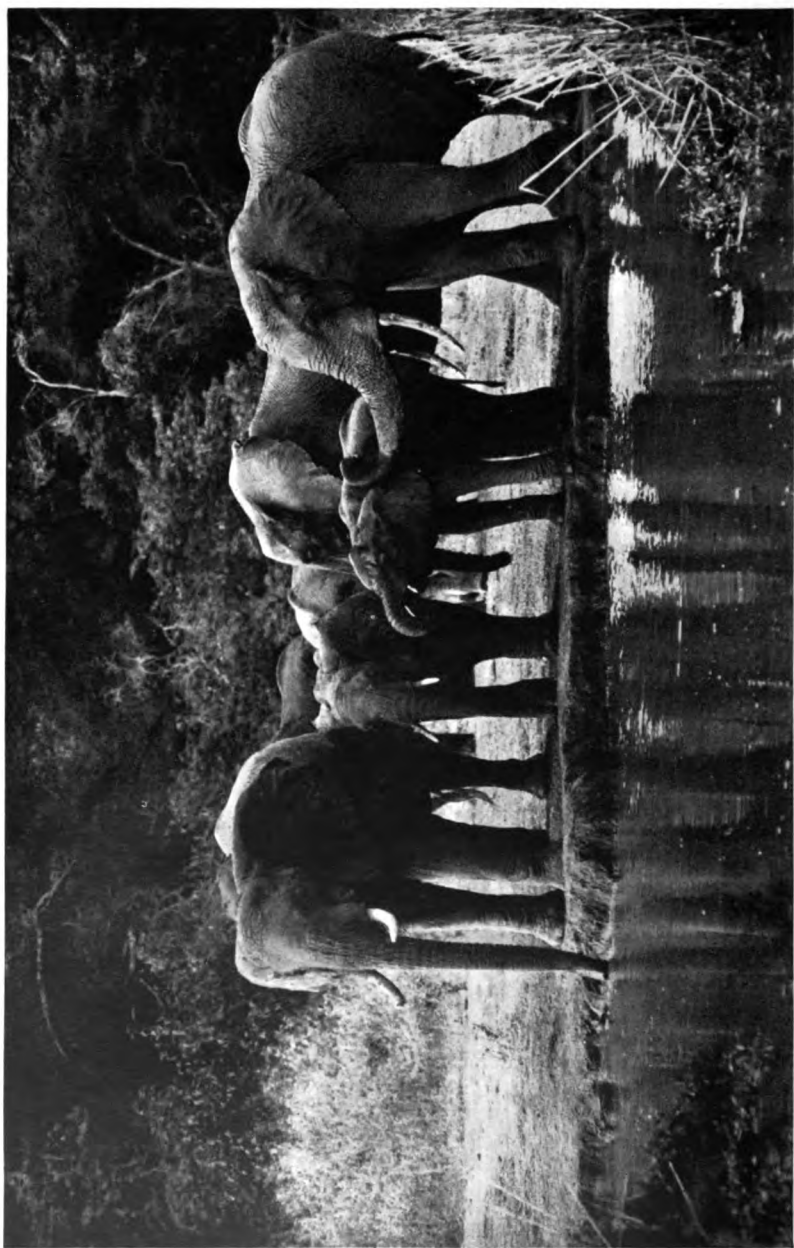
The likeliest areas now in which to obtain fair ivory are perhaps south Masailand, where elephant are fairly numerous, and the thicket country of Singida or Manyoni. Tusks weighing from 80 to 100 pounds are still obtained, though rarely, outside the game reserves.

Opportunities for photography may be found in any of the elephant areas. Some of the chief ones are:

- (a) *Kilimanjaro*.—The elephants which inhabit the game reserve are connected by movements with the elephants of the Weru-weru thicket area west of Moshi, and an annual

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[Photo by J. Marcuswell Maxwell (Copyright)]

ELEPHANT AT A WATER-HOLE

migration takes place down the Pangani River. This is a dense and difficult area.

- (b) *Tanga*.—The Tanga elephants which inhabit the Usambara Mountains and the Uмба Steppe form a second group and passage occurs over the Kenya border. Many good tuskers have been shot in this area.
- (c) *Mbulu and Mkalama*.—There is definite communication between the Mbulu elephants and those of Mkalama in the west via the Yaida Swamp and those of Tarangire in the east. The Mount Ufume elephants belong or belonged to this group, but appear to spend much of their time on the mountain. The north Mkalama elephants pass into southern Mwanza.
- (d) *Kibaya*.—Some of the herds of Kibaya meet on the Tarangire the elephants from the west. Further south there is a regular passage between Kibaya and east Singida via the Kerema River in Kondoa-Irangi. On this river a large thicket area with one permanent and two nearly permanent waters is a great haunt of elephants on passage.
- (e) *Singida*.—The bulls of the herds on passage referred to above pass on into west Singida, crossing the Manyoni road in the neighbourhood of Isuna. The cows tend to remain on the eastern side of the district. The country of west Singida is a notable haunt for elephants. Some of these regularly pass south to Itigi, while their northernmost limit is the Ussure thicket in south-west Mkalama. Neither they nor the elephants of Mkalama proper appear to cross or work round the Iramba Plateau, which may, therefore, be regarded as acting as a separating barrier. Some elephants seem to be permanently resident in the thickets. The numbers at any one time are not great, but patient hunting in this very difficult area can still be productive of moderate ivory.
- (f) *Kigoma to Rukwa*.—A number of small herds are concerned with movements influenced in part by the ripening of palm-fruits and largely between north and south. There are elephants often on the Ugala River, but the tusks are small.
- (g) The elephants of the Upper Ruaha and the Saba Reserve reconnect this picture with that of Manyoni-south-east-Tabora-Singida.

- (h) The greatest and best-populated of all the elephant areas in the Territory comprises the huge region that is filled by the Songea-Lindi-Mahenge-Kilosa-Kissaki-Utete country; but there are few parts of this area to-day in which a good tusker can be obtained. A man getting a sixty-pounder is lucky.

Where they are undisturbed, elephants haunt every type of country, but to-day they must be hunted mostly in dense bush. Nevertheless, in their daily and annual movements they traverse freely the open savannah forests, but mainly at night, while during the heavy rains the elephants that inhabit the rain forests of the north tend to leave them for the secondary thickets of the plains.

Successful hunting of elephants consists in a close approach. With a steady wind in his favour the hunter can often walk right up to an elephant. Shooting from a distance, or volleying, cannot be condemned too strongly, as the former can only result in the wholesale wounding of animals and the creation of rogues.

The novice should make for the heart shot as the heart and its arteries form a large mark, whereas the brain is a very small one, and is masked by huge bony structures. He should also use the heaviest rifle he can handle effectively and leave the small-bore rifle to very old hands.

The holder of a Resident's or Visitor's Full Licence may take out a licence for a first elephant at a cost of £20, and for a second at a cost of £30. Tusks of 30 pounds or under must be handed in to the Government. Other tusks must be registered with the nearest Administrative Officer within one month after shooting.

GIRAFFE (*Giraffa camelopardalis tippelskirski*)

Native name: Kiswahili—*Twiga*.

A giraffe's head is the crest of the Territory, and if abundance is a qualification for that honour the giraffe is well entitled to it.

A certain number of giraffe are killed by natives, a number more by lions, and instances occurred some years back in

which, until they were caught, shooters of meat for plantations shot down a good many. The sportsman, however, has no wish to kill a giraffe, and the delightful result is that the species in Tanganyika is not merely plentiful, but also exceedingly tame. In the Arusha district especially, giraffe are frequently seen quite close to the roads, and no one should have any difficulty in getting an extremely fine series of photographs of this mild, spectacular animal.

In the eastern half of the Territory the distribution of giraffe comes to a stop, southward, with the Kissaki country. The south-eastern area, namely, the Rufiji district, Lindi Province and Mahenge, appears to be devoid of giraffe, while on the west the species is found as far as Lake Rukwa, the dividing line being, very roughly, the Iringa highlands and the Rufiji River. A good many giraffe have been captured in Tanganyika for zoological gardens in Europe, but the greatest care and experience is essential as any over-strain during capture results in the death of the animal in a short time.

HIPPOPOTAMUS (*Hippopotamus amphibius*)

Native name: Kiswahili—*Kiboko*.

Hippopotami are found in each of the great lakes, in all the large rivers and in a large proportion of the small ones. Trekking across the land, they also find their way to the smallest and most isolated of crater lakes, that of Ngorongoro, for instance, and those near Arusha, and even to mere wet-season pans and swamps.

Hippopotami add immensely to the interest of a journey on some of the larger rivers, and occasionally, where they have been much shot in order to check their garden-raiding habits, to its excitement, for canoes are not infrequently attacked by a wounded animal or a cow with calf. Great numbers have had to be killed in the Rufiji River and elsewhere, for the protection of native gardens of which they are inveterate raiders, but the animal remains abundant.

The shooting of hippopotami in water is the reverse of sport, but a supply of excellent fat may be obtained for the

safari should one be shot. In small waters they spend much of their time on land, even lying about in the bush. When found on land the animal is apt to be dangerous if met on its path back to the water. They are full of curiosity, and, where they have not been much shot at, may be attracted nearer and nearer to the bank by noises and waving of cloths.

When shot in the water, the body of a hippopotamus sinks and may take nearly a day to rise, though in particularly hot weather the corpse may come to the surface in an hour or two. The teeth of a large hippopotamus, when mounted, make a fine trophy.

BLACK RHINOCEROS (*Rhinoceros bicornis*)

Native name: Kiswahili—*Kifaru*.

This rhinoceros is present almost throughout the Territory. A few of the areas in which it is particularly abundant are western Bukoba, Shanwa, and thence to the Serengeti Plains, the Lake Yaida-Eyasi area (Mbulu), Sonyo (Loliondo), Mbugwe.

Twelve-inch horns are common, an eighteen-inch horn is good, and horns more than double this length have been got.

Good horns have been obtained in Bukoba and Sonyo, in Kampi ya Faru near Mbulu, and at Rasha-rasha near Arusha, where a horn of over forty inches was secured.

Where they have been much hunted, rhinoceros keep to the thickets, coming out into the glades and other open spaces in the evening. They return to their retreats, criss-crossed with their paths, very early in the morning. They are found much on hillsides covered with the cactus-like euphorbias which to human beings are poisonous but to the rhinoceros, food. The animal's reaction to the discovery that human beings are near is often a stupid rush, which occasionally is in the direction of his disturbers and still more occasionally may develop into a purposeful charge. This very stupidity, combined with a blind ferocity, makes him a danger, but he is not to be compared with the purposefully charging, deliberately waiting buffalo. He is very blind, and a detour down wind will commonly take a caravan safely past a rhinoceros

that has not noticed its presence. An approach to the animal up-wind is easy. A charging rhinoceros is frequently turned by a shot or even temporarily felled by a head-shot which just misses the brain, but he is not so easily killed. The novice is advised to take the heart shot. The mark is large and, should the heart be missed, even a lung shot is apt to be more rapidly effective here than in elephant.

It has been necessary, as a result of excessive shooting, to restrict the hunting of rhinoceros to holders of a special licence. As in the case of elephant tusks, the horn of any rhinoceros shot must, within one month of the killing, be produced to the nearest Administrative Officer for registration.

EAST AFRICAN LEOPARD (*Felis pardus suahelica*)

Native names: Kiswahili—*Chui*. Kisagara—*Duma*. Chigogo—*Sui*. Kinyamwezi—*Sui*. Kisukuma—*Sui*.

The leopard is very abundant in the Territory, but, owing to its secretive habits and protective colouring, is more generally obtained by means of the gun-trap than by straightforward shooting. The average leopard will weigh little more than 100 lb., or one-fifth of the weight of a lion. The Game Warden once shot one of 130 lb. and has seen a magnificent skin of one that weighed 150.

It is fortunate that the leopard is light, for its ferocity and rapid movements, and the fact that nothing but death will turn it, would make it by far the most formidable of animals, were it larger in size. Even so, many who have followed a wounded leopard have paid with their life, or have been seriously mauled. The moral is never to follow a wounded leopard into dense bush.

Cases of unprovoked attack by leopards on man are uncommon, but near Morogoro it was ascertained that a leopard which ran amok killed and wounded no less than eleven people. In one or two cases a leopard has dropped from a branch on a native passing below, while at times a leopard has broken through the thatch of a hut—a commoner feat on the part of a lion, except where the hut contains small stock.

Goats and fowls are frequently taken and dogs are a favour-

ite food. A leopard is specially wasteful and every goat in a hut or kraal will sometimes be killed, though only one or two may be taken. It is within the knowledge of the Game Department that, on one occasion, one leopard killed no less than eighty goats in one attack.

LION (*Felis leo*)

Native names: Kiswahili and most local dialects—*Simba*.
Kisagara—*Nyalupala*.

There is hardly a part of the Territory in which lions are not found. They have visited Dar es Salaam and been fought more than once in the streets of Tabora. There are the plains lions, abundant on the Serengeti and all other game plains of the Territory, that live on the various antelopes and warthog, zebra and an occasional giraffe. There are also the bush lions, especially of parts of the southern half of the Territory, often dark in colour, which spend much of their time hunting bush-pigs. Occasionally, often in March, when the grass and the crops are high overhead and all is as wet as a river, one or more of these lions will take to perambulating the paths from village to village, no longer for pigs but for natives. A woman is killed here to-night, and a man or a child thirty miles away on the morrow; for, going at a fast walk, these beasts cover much country in a night and, spending two or three days in each new beat of their area, are back where they first appeared after ten days or a fortnight.

All lions are believed to eat locusts and the natives are unanimous in asserting that they eat certain fruits, the *masuku* of the south of the Territory being regarded as a favourite. Lions are also cannibals and the Game Warden recalls a case in which a lion and lioness, after vainly laying siege to a village for four days, ultimately ate their own cub before the inhabitants were finally starved into showing themselves. Lions will often go some days without food, but these were obviously suffering from exceptional famine. Lions are specially fond of pigs, though zebra, donkey, kudu and eland rank high in their menu, and kudu skulls are frequently found with only the nose eaten off, the mark of the lion.



[Photo by J. Marcuswell Maxwell (Copyright)]

LION OVER A KILL

The common belief that lions fear fire is certainly erroneous, for lions hunt regularly in front of grass-fires, dashing close up to or through them, and in many cases they have come into camps where fires were burning. In one case in the Game Warden's experience a large party of lions took four natives in turn from beside their fire, which, with each casualty, was piled higher, and left but one survivor. Selous records an exactly similar case. In another case, a lion stood with his feet in the ashes at the side of the fire.

CHEETAH (*Acinonyx jubatus*)

Native names: Kiswahili—*Duma*. Kisagara—*Dulanjenje*.
Chigogo—*Simba mwenmwe* or *Duma*.

Standing high on its legs, more dog-like in its movements and with claw-marks showing in its spoor, the cheetah is a complete contrast to the leopard. It differs in colour by possessing small, solid, round spots instead of the hollow, broken rosettes of the leopard. The young is a ball of wool, with a general colouring that faintly recalls the acryptic colouring of the skunk and the honey-badger, being whitish above, black below.

The cheetah is found in small numbers almost throughout the Territory. In Kibaya, the Serengeti plains and a few other northern localities it is common, and a family party may occasionally be seen, some lying with head erect and alert, others sitting high on their haunches like dogs.

Stock is taken occasionally, but, on the whole, the cheetah does little damage, living on the antelopes which it secures by its speed. Nevertheless it can be run down by a horse and in the end lies down and awaits its fate.

Cheetahs were at one time shot to excess in the Serengeti country, and now are protected.

SERVAL (*Felis serval*)

The serval cat, also with leopard-like colouring, is fairly abundant. It kills small antelopes, birds and rats, and does not refuse large insects. Serval sometimes make good pets,

but are apt, if two are together, to become independent and fierce. They are also liable to rickets.

SPOTTED HYENA (*Crocuta crocuta*)

Native names: Kiswahili—*Fisi*. Chigogo—*Mvisi* or *Iwelawela*.
Kinyamwezi—*Kabiti*.

Hyenas are fairly abundant in the Territory and to some tribes they are sacred. The Wambulu and Wafume especially, who leave their dead to be eaten by hyenas, resent the killing of these animals.

Hyena in game areas live largely on what the lions leave, but in many parts they are a nuisance, sneaking round villages and camps for what they may seize and run off with, removing, very occasionally, a piece of flesh, cheek or buttock out of a sleeping native, or killing cattle by tearing out udder or entrails. Man-eating hyenas have on rare occasions been reported and one killed in the Rufiji district was credited by the natives with something like thirty deaths.

Skins and hides should not be left at night within reach of hyenas.

HUNTING DOG (*Lycan pictus*)

Native names: Kiswahili—*Mbwa mwitu*. Kisagara—*Pocho*.
Chigogo—*Iminzi*. Kinyamwezi—*Ipuge*.

Packs, large or small, of wild dogs range most parts of the country and their melodious signal call, a long drawn "hoo", can often be heard. They hunt at night, but a great deal also by daylight.

Wild dogs sometimes take to killing stock, but only very rare cases have been recorded of attempted attack on man. They commonly show no fear whatsoever but, after gazing and barking, it may be from ten yards away, move quietly off.

They are a veritable scourge to the game, never ceasing to harry it and attacking even the largest species of antelope. They have often been reported as driving lions from their kills.

The colour is a medley of fawn, black and white; in stature they are fairly tall; the head is rather hyena-like and

they smell abominably. Sometimes the dogs are mangy, sometimes in excellent coat.

WARTHOG (*Phacochoerus aethiopicus*)

Native name: Kiswahili and most local dialects—*Ngiri*.

With its queer vertical tail, this pig is more or less common throughout the savannah country, where it lives largely on grass roots. Warthogs do some damage to crops and at times a great deal to mealies, but are very much less destructive in this respect than bush-pigs.

A warthog, as is well known, goes into his burrow backwards. He may be bolted readily, into a noose or otherwise, by the insertion of bisulphide of carbon or even by mere stamping on top of the burrow.

A warthog will sometimes charge if approached when wounded and is at all times dangerous to dogs. Pig-sticking of warthog has been tried but is by no means equal to the Indian sport. The meat of a young sow warthog is quite good eating.

BUSH-PIG (*Potamochoerus chaeropotamus*)

Native names: Kiswahili—*Nguruwe*. Kisagara and Chigogo—*Ngubi*. Kinyamwezi—*Tumba*. Kisukuma—*Numba*. In Bukoba—*Mpuno*.

The young of this pig are red, with a conspicuous pattern of white spots and stripes, but the older animals vary much. The bush-pig of Kilimanjaro (*P. c. daemonis*) is pitch black and unusually long in the hair.

The damage done to crops by this species is enormous. As its habits are nocturnal it is hard to guard against its depredations.

ZEBRA (*Equus quagga böhmi*)

Native names: Kiswahili and Kizugua—*Punda milia*. Chigogo—*Nhyenje*. Kinyamwezi and Kisukuma—*Ndulu* or *Ndolo*. Kisagara—*Sangeri*. In Bukoba—*Ntulege*.

Zebra are found almost throughout the Territory and are enormously abundant in some parts of it, notably in the Arusha district. Zebras are always sleek and bursting with

fat, and herds of this useless but beautiful animal will probably continue to please the eye over wide but diminishing areas for at least the next sixty years.

There is no sport in shooting the zebra itself, though its meat is useful for feeding porters of many tribes.

The hide looks well on the floor, but is so thick and tough that it requires endless labour to reduce it to pliability. The noses make pretty slippers.

Attempts to domesticate this particular species have resulted chiefly in proving it to have little heart and much vice. It is possible that the severest selection and patience through some generations might produce something good, but the expense would probably be high.

ANTELOPES

Sub-family: BUBALINAE

1. Coke's Hartebeest (*Bubalis cokei*).

Native name: Kiswahili and most local dialects—*Kongoni*.

Coke's hartebeest, with its wide bracket-shaped horns, occurs from Mpwapwa and Handeni northward to and beyond the Kenya border. The hartebeest is in the main a plains species. Moving with a gait that is reminiscent of a bouncing ball, it is speedy enough to outrun a fast horse. It is a wary animal where hunted and it is usual for a look out to be kept on an anthill by one of the party. It occurs mostly in herds of a dozen or two, though sometimes considerably more are found together. It is common in much of the north of Tanganyika but can nowhere be seen in the Territory in the numbers that are present in the Southern Game Reserve of Kenya.

2. Jackson's Hartebeest (*Bubalis leluwel jacksoni*).

This hartebeest appears to occur in the Territory only in the Kagera valley of the Bukoba Province. The pedicles of the horns are tall and the horns viewed from in front are V-shaped.

3. Lichtenstein's Hartebeest (*Bubalis lichtensteini*).

Described first from Tete, on the Zambesi River, this handsome red hartebeest, with its saddle-like marking and typical hartebeest shape and action, is found in Portuguese East Africa from the latitude of the Sabi northwards, and in Southern and Northern Rhodesia, Nyasaland and Tanganyika. It occupies, in small parties, the whole south of the Territory, and extends north to the Handeni district on the east, and to Uzinza on Lake Nyanza on the west. The horn-pedicle forms a flat, broad palm, the horns curving inwards and then backwards.

Like the sable antelope, it is specially associated with *Berlinia* wooding and occupies the whole of the greater "miombo" areas. Unlike Coke's hartebeest, it is associated with woodland rather than with open plain, though it may be seen in open spaces, particularly during cool weather. Kilosa and Tabora are good starting-points for anyone wishing to obtain this head.

4. Topi (*Damaliscus corrigum jimela*).

The topi extends from Jubaland to the south of Lake Tanganyika. It is found in small herds and parties over a great part of the western area from Lake Rukwa up to the Kagera River, and in the north across into the Serengeti. In most parts of its range it is accompanied by the roan antelope. Wherever it is present at all it is very abundant, and it seems to be at home in all types of bush and plain, avoiding only thicket.

Good locations for it are:

- (a) The Ugala country of the Tabora Province and the Rukwa depression.
- (b) West Bukoba.
- (c) East Mwanza, particularly in the Balangeti country.

With its rich red-brown colour, purple-black thighs and shoulders and marvellous satiny sheen, the topi is an attractive animal, as befits the relative of the now nearly extinct bontebuck of the Cape.

5. The Blue Wildebeest or Brindled Gnu (*Connochaetes taurinus*).

(i) Nyassa Blue Wildebeest (*Connochaetes taurinus johnstoni*).

The Nyassa gnu, distinguished by a white frontal chevron, is found in Mahenge and elsewhere in the south of the Territory. Its distribution does not appear, like that of the sable antelope and Lichtenstein hartebeest, to be coterminous with a particular type of woodland, and the boundary between it and the next sub-species, which is also found south of the Central Railway and thence to the north into Kenya, has not been worked out.

(ii) White-bearded Gnu (*Connochaetes taurinus albojubatus*).

This race of the blue wildebeest or its variety, *C. t. hecki*, occurs throughout the north of the Territory.

C. hecki has been described from Kibaya in southern Masailand. It has black hairs in the throat-fringe and a face varying from greyish white to rufous.

The wildebeest, with its bison-like appearance and extraordinary antics, may be found on most open uninhabited plains or in the bush which contains them, often, in the north, in great herds.

The Mkata plain near Kilosa, the plains of the Northern Province and the Serengeti country are amongst the best areas. Wildebeest when hunted tend to keep to the open, even circling round a limited open space, for their defence is, essentially, wariness and keeping to ground on which an enemy approach can hardly pass undetected.

The hairs of the wildebeest tails are in great demand amongst natives, being used as the pliable cores of a form of thin wire bracelet.

Sub-family: CEPHALOPHINAE

1. Abbott's Duiker (*Cephalophus (spadix) abbotti*).

Native name: *Mindi*.

This stocky, thick-set animal is as heavy as a bushbuck and

is a species which no one acquainted only with the common type would recognize as a duiker. The horns are thick, if not long, the colour is nearly black, and the coat is glossy. It inhabits dense rain forests in the Usambara Mountains, on Kilimanjaro, whence it was described, and in the Uluguru hills in Morogoro. It is very difficult to find and the glimpse is apt to be momentary, but it has been obtained occasionally by residents in Lushoto or by means of organized drives.

2. Harvey's Duiker (*Cephalophus harveyi*).

Native names: Kiswahili—*Nshaa*. Chigogo—*Fulo*.

This bright chestnut-red duiker, with glossy coat, rather thick-set body and thick-based horns, is found in localities so far apart as Lindi, Kilosa, Kilimanjaro and the Usambara Mountains, so that it is possible that it is fairly generally, if sparsely, distributed through the thickets of the Territory. Though bright in colour, it is a skulker in thick bush and can easily be overlooked.

3. Blue Duiker (*Cephalophus (Guevei) lugens*).

C. lugens, described from Usangu, represents a somewhat larger race than the southern blue duiker. This, or another race, occurs also in the rain forests of Bukoba. It is a very attractive, diminutive, neatly formed antelope of the height of an English hare, dark slaty-brown in colour. Scurrying about in dense forest, it feeds largely on fallen leaves and gives good sport to a shot-gun. The natives make low fences of small sticks across hundreds of yards of forest and, setting snares in openings every few yards, take considerable numbers of this buck.

4. Common Duiker (*Cephalophus (Sylvicapra) grimmi*).

Native names: Kiswahili—*Funo*. Chigogo—*Haluzi*.
Kinyamwezi—*Subuya*.

C. grimmi nyansae and *C. grimmi hindei* (from Kilimanjaro) represent probably the chief northern races of the common duiker, but there are at least two others in the Territory

that have yet to be worked out. The common duiker is, in most of this Territory, by no means the abundant little buck that it is in the countries to the south. It lives in the tree savannahs or open hills and dives away through the grass, running low at a great pace when disturbed. It is possessed of wonderful vitality, and goes on running after sustaining the most terrible wounds. It is sometimes hunted with a shotgun.

5. Klipspringer (*Oreotragus oreotragus schillingsi*).

Native names: Kiswahili—*Mbuzi*. Chigogo—*Ngurunguru*.
Kinyamwezi and Kisukuma—*Ngulungulu*.

Schilling's race is the klipspringer of the north of the Territory. It is distinguished by the fact that the thighs, which are clear grey or rufous, differ markedly from the body in colour by the dark middle line of the back and by the fact that horns are commonly present in the female.

It is possible that the klipspringer of the south of the Territory is *O. o. aceratos* of north-eastern Rhodesia, but this has yet to be proved.

The klipspringer occurs on most rocky kopjes and hills of any size in the Territory, and its hunting may entail fairly hard work. It leaps from rock to rock like a chamois; it stands and walks on the tips of its hooves, and its hair is extraordinarily coarse, like thin hedgehog quills. Given freedom and rocks round about, it makes a good outdoor pet. The meat is excellent.

Sub-family: NEOTRAGINAE

Key to the genera (from Lydekker):

- A. A bare patch below ear—*Oribia* (the Oribis).
- B. No bare patch below ear.

- (a) Horns vertical; lateral hoofs present or absent
Raphiceros (the Steinbucks).
- (b) Horns inclining backwards in or near frontal plane—
Neotragus (the Sunis).

1. Oribi (*Oribia scoparia*).

Native names: Kiswahili—*Kasia*. Chigogo—*Nhemanyika*.
Kinyamwezi—*Kasia*.

A particularly graceful little buck with its pleasing red-fawn colour, high, slender legs and light bounding run. It is usually found in pairs on open plains or down-like hills. It is not common in the Territory generally, but may be found in many of the "miombo" areas of Tabora, as well as in much of the north.

2. Steinbuck—East African race (*Raphiceros campestris neumanni*).

Native names: Kiswahili—*Dondoro*. Chigogo—*Chizumba*.
Kinyamwezi—*Kazumba*.

The type locality of this race is northern Ugogo, but it occurs across the north of the Territory and as far south as Usangu. It differs from the typical South African steinbuck in lacking, in the male, that animal's dark crescentic mark on the head, its generally paler colour and the greater development of white facial markings.

Another form, *R. campestris stigmaticus*, differing from *neumanni* in possessing a dark-brown triangular spot on the nose, has been described from Kilimanjaro by Lonnberg.

The steinbuck is an abundant little buck, which takes refuge like the dikdiks in the thickets of the Commiphora savannah.

3. Sharpe's Steinbuck (*Raphiceros sharpei*).

This species is known to occur in much of the south of the Territory, but its distribution is not fully known, and notes on its occurrence would be welcome. It is much redder in colour than the common steinbuck and has white hairs intermingled. Only the male has horns. It is definitely common in the triangle formed by the Rungwe and Lupa rivers and the Rukwa escarpment.

4. East African Suni (*Neotragus moschatus*).

The species is divided into races. The following key is from Lydekker:

- A. General colour above chestnut-brown—*N. m. akeleyi*.
- B. General colour medium-dark grizzled fawn—*N. m. moschatus*.
- C. General colour light-cinnamon rufous—*N. m. deserticola* (Heller).

N. m. moschatus inhabits Zanzibar.

The suni or pygmy antelope, the smallest of all, is abundant in dense wooding in the coast districts, in the Kilosa district, in Kondoa-Irangi and elsewhere.

Livingstone's suni (*N. livingstonianus*), bright red in colour, has not been reported from this Territory, though it occurs in Nyasaland and Portuguese Territory.

Sub-family: MADOQUINAE

1. Kirk's Dikdik (*Rhynchotragus kirki kirki*).

Key to the races:

- A. Size smaller *R. k. kirki* (length of skull 95 mm.).
- B. Size larger.
 - (a) Colour darker—*R. k. hindei* (length of skull 109 mm.).
 - (b) Colour lighter—*R. k. nyikae*.

Typical *R. kirki* has been collected below Mount Kilimanjaro. *R. nyikae* has been taken at Voi in Kenya and figures in northern Tanganyika. The back is ochre-tawny, passing into buff on the flanks and to white beneath. A pepper-and-salt effect is caused on the back by the dusty rings on the hairs. The general colour of the back of *R. k. kirki* is dull yellowish grey, while the limbs are rufous.

The general colour of *R. k. hindei* is more fulvous, especially the middle line of the back, which is bright grizzled fulvous; the legs are reddish fulvous; white eye-markings distinct; long crest-hairs deep reddish fulvous, with black tips; outer side of front margins of ears edged with black (Lydekker).

2. Nyamwezi Dikdik (*Rhynchotragus thomasi*).

This species is found in Usukuma, Unyamwezi and extends across into Masailand.

It resembles the *R. kirki hindei*, but is distinguished by the

more uniformly rufous-tawny of the whole of the upper parts, only the middle of the line of the back being dark rufous in the latter, while the sides are olive or fulvous. The hairs of the back are ringed near the tip with red and black, but the black disappears on the sides, so that the hairs of the shoulders and flanks are wholly rufous; the head also is uniformly rufous except on the occiput, where black-tipped hairs make their appearance.

The diminutive dikdiks are to be found almost everywhere and throughout the north are particularly abundant. They live in the thickets and are even found hiding in the planted Euphorbia hedges in the cultivated steppe of Shinyanga.

Sub-family: REDUNCINAE, the Reedbucks.

1. The Southern Reedbuck (*Redunca arundinum*).

The very fine reedbuck of South Africa and the Rhodesias extends well into the Territory. The shoulder-height of a ram is about 36 inches, and the length of skull about 11 inches. The hair has a strong fulvous fringe; the horns (which are sometimes very long) bend well forward and the bare muzzle extends beyond the notch of the nostrils.

This reedbuck, though found near reed-beds, as its name implies, is particularly fond of open upland grass-country. Usually roaming in pairs or threes, as many as six, eight or ten may sometimes be found together.

The call is a whistle, which some have suggested, incorrectly, is made by the driving of the wind from the inside of the thighs, as these are sometimes drawn in when the sound is made. The meat is excellent. A rare female has horns, hanging loose, thin and deformed. The soft part of the base of the horns of the male is too often allowed to rot. It can be preserved by separating it slightly from the skull after death, putting arsenic in and painting with arsenical soap.

2. The Bohor Reedbuck (*Redunca redunca*).

The coat is yellower and less grizzled than in the southern reedbuck and the tail less bushy. The shoulder is 27 or 28 inches in height and the skull from $9\frac{1}{4}$ to about $10\frac{1}{8}$ inches

in length. The horns are shorter and relatively stouter than those of the southern reedbuck. They have a length up to about 15 inches and, as a rule, are abruptly hooked at the tips.

Of the three races, *R. redunca wardi*, *R. r. tohi*, and *R. r. ugandae*, the first and the last certainly occur in this Territory (*R. ugandae* in Bukoba).

In *R. wardi* the skull is relatively large ($10\frac{7}{8}$ inches), long, massive and deep, and the length of the upper series of cheek-teeth is $2\frac{7}{8}$ inches. Black markings are present on the legs.

In *R. tohi* the basal length of the skull is only $8\frac{3}{8}$ inches and the colour is lighter and purer, the black lining on the back being less distinct and the dark leg-streaks narrower or wanting.

In *R. ugandae*, which is also relatively small, the skull length is $9\frac{1}{2}$ inches and the horns are short and stout without a pronounced forward hook at the tip. The length of the upper series of cheek-teeth is $2\frac{1}{4}$ inches.

The Bohor reedbuck is well distributed throughout the north of the Territory, and is found at least as far south as the Ugala River.

3. Chanler's Reedbuck (*Oreodorcas fulvorufula*).

Chanler's reedbuck, like the Bohor, is fairly widely distributed, and is often found in the same localities as the other.

It is a small reedbuck with a rufous coloration, a broad skull, with horns slightly hooked at the tip and a bare muzzle not extending back beyond the notch of the nostrils.

WATERBUCK

Native name: Kiswahili—*Kuru*.

Both species of waterbuck are present in Tanganyika—*Cobus ellipsiprymnus*, or the common waterbuck, in the east, and the *Cobus defassa* (Defassa waterbuck or "Sing-sing") in the west.

The common waterbuck is distinguished from the Defassa by the white circle round its rump, which makes it readily

recognizable at a distance. The Defassa species has the better horns. Each, with its shaggy hair and splendid carriage, is a fine-looking animal.

Neither species is found far from water or the hills and bush that border it. Each tends to run in herds, usually of several females and one or two males. Small parties of bulls may be found separately. Each, where it occurs, is fairly abundant.

Waterbuck meat is commonly rank in flavour.

PUKU (*Cobus vardonii*)

Puku are very localized, but are very abundant where they occur.

The best and almost the only localities are the flooded flats of the great rivers of Mahenge, the Mnyera and Kilombero, and also Lake Rukwa. Horns have been brought in also that purported to come from the Ugala River in Tabora.

IMPALA (*Apyceros melampus*)

Native names: Kiswahili—*Pala*. Chigogo—*Mpata*. Kinyamwezi—*Mpata*. Kisagara—*Nzimba*. In Bukoba—*Mpara*.

As Grant's gazelle is the paragon of the nearly waterless areas, so the impala, graceful in form and carriage, with beautiful, ringed, lyrate horns, is the loveliest of the middle-sized buck elsewhere.

Large herds of the hornless females (thirty or forty) may often be seen with no ram at all, and small parties of rams be found elsewhere. Sometimes up to a hundred animals may be found in one herd. They favour the more open spaces of park-like country where water is not too far distant.

As the eland is the most widely distributed and abundant of the greater antelopes, so is the impala of the smaller, and the flesh of each is excellent.

GRANT'S GAZELLE (*Gazella granti*)

Native name: Kiswahili—*Suala*.

This gazelle, found in small herds consisting of a ram or

two to several females, is more or less abundant across the north of Tanganyika from Moshi to the Serengeti, and extends southwards to various points. Mount Hanang, near the border of Mbulu and Singida, is perhaps the western limit of the species, but, through Kibaya, it runs right down to Mpwapwa and finds its southernmost points in the southern end of that district in the Logi Reserve, and, further west, in the angle formed by the Kisigo and Ruaha Rivers.

It is a particularly delightful animal with its graceful form, handsome colouring and splendid horns, which are huge for the size of their bearer. The brown flank-stripe of the males is, in the young and in some of the females, replaced by a black side-stripe like that of Thomson's gazelle.

This species and Thomson's gazelle are found in the driest country, and seem to subsist for long periods without water. The stomach in these cases is often filled with juicy fruits, notably the large fruits of a solanum that grows on old Masai grazing grounds.

THOMSON'S GAZELLE (*Gazella thomsoni*)

Thomson's gazelle is more abundant even than the Grant, and is often extremely tame. It extends, to the westward at least, further than Grant's gazelle, for it is present in some numbers quite far west in Shinyanga.

Both gazelles are found in very great numbers on the Serengeti, to which wholesale migrations of thousands of animals take place, reminiscent of the springbuck migrations in South Africa years ago.

GERENUK (*Lithocranius walleri*)

Native name: Kiswahili and most local dialects—*Twiga mdogo*.

The Gerenuk or Waller's gazelle is not unabundant in the Longido country north of Arusha, both in the Game Reserve and out of it, in low, dry western Lushoto, about parts of the Pare Mountains and in the Mbuguni and Ngaruka localities. It occurs in the Kibaya area also.

It lives in the dry, fairly thick scrub and is, therefore, not always quite easy to find, despite its red colouring and the

extraordinarily elongated neck which has given it the name of the giraffe gazelle. Its horns—thick, lyrate, and strongly ringed—are quite desirable trophies.

ROAN ANTELOPE (*Hippotragus equinus langheldi*)

The roan is the largest of antelopes after the eland, though its weight cannot be much more than half that of an eland, while its horns are dwarfed by those of its relative, the sable antelope.

In Tanganyika the species is distributed in small herds throughout the west of the Territory from Ufipa, including Rukwa, up through Tabora and Shinyanga into Bukoba. It is also found across much of the north, in the whole of east Mwanza and west Arusha nearly to Lolkisale, in Kondoa Irangi and in Kibaya. A curiously isolated locality, connected perhaps through Handeni and Kibaya, is the district of Bagamoyo. The roan is found in the "miombo" bush, in which, in the late dry season and early rains, it is often seen out in the open clearings, and in the far drier *Acacia-Commiphora* country which covers much of the north; and it even overlaps with the oryx, inhabitant of semi-desert.

Parts in which the roan is common enough to be worth hunting by a visitor to the Territory are the Namanyere area in Ufipa, south-west Tabora generally, north-west Bukoba, the Balangeti area of east Mwanza for a few months from August on and, later in the year, the country further east. Between Ufume and the Tarangire the species is sometimes found in fair numbers.

The roan is one of the most dangerous of antelopes if it is approached when wounded. It is not always easy to tell the bulls from the cows, and mistakes are sometimes made.

SABLE ANTELOPE. East African race (*Hippotragus niger roosevelti*)

Native names: Kiswahili and Kizugua—*Palahala*. Kinyamwezi—*Palapala mpahala*. Kisagara (and sometimes Kiswahili)—*Mbarati*.

The East African sable was separated by Heller under the

name of *roosevelti* as a shorter-horned race with rustier hair, but specimens have been shot in Tanganyika which are as black as the southern sable. The record horn measurement of the East African race is about 44 inches.

In the Rhodesias and in Portuguese Territory the horns run larger and the record is 54 inches; while the horns of the Angolan race (giant sable) runs to 64 inches.

The handsomest of the larger buck after the greater kudu, the sable occurs in small herds through nearly two-thirds of the Territory. It is closely associated with "miombo" wooding, though it may be found outside it in areas in which *Berlinia* occurs on the hills.

There are few more pleasing sights than a herd of this splendid antelope, with its coal-black, white-bellied old bull and its fox-coloured heifers and calves in the tall clean-stemmed "miombo" which they love. Old solitary bulls are also frequently found. As a species it sometimes tends to join other animals, and sable, on a few occasions, have even been known to graze with cattle.

The sable antelope emphatically is one of the species which a hunter must not approach closely when it is wounded. In several instances men have been treed by them, and the ease with which a sable at bay can guard off spears thrown by natives, catching them on its horns and throwing them, broken, aside, has been recorded.

The sable is not highly abundant and in some parts of its local range it is comparatively scarce; but a sportsman willing to give time to its hunting will certainly be rewarded in any of the following areas :

- (a) The "miombo" wooding from Uzinga (south of Handeni) to Kilosa.
- (b) The country from Kilosa southward on and off the Mahenge road. Quite fair heads for the East African race have been shot within a few miles of Kilosa.
- (c) Throughout the huge western belt of *Berlinia-Brachystegia*.

The northernmost points reached by the species are Usuwi in Bukoba, and Uzinza in western Mwanza on Lake Nyanza.

FRINGE-EARED ORYX (*Oryx callotis*)

Native names: Kiswahili—*Choroa*. Chigogo—*Nyoganyoga*.

Kizugua—*Nichorocho*.

This oryx occurs only in Tanganyika and in southern Kenya. In South Africa it is replaced by the gemsbuck with straighter and larger horns, and in north Kenya and Somaliland by the Beisa oryx.

In Tanganyika the oryx is found mainly in the Northern Province, particularly in the Longido country and that of the Tarangire stream which includes Kwa-ku-chinja. It used to occur in herds from here to Essingor, but is scarcer to-day. It is found also in the low-lying parts of Lushoto, south-west of the Pare-Usambara range, including the Game Reserve. Its southernmost points are the plains close to Mpwapwa and the Logi Game Reserve in the south-east corner of that district.

It inhabits the driest of country, namely, open plain and thorn and "nyika" scrub.

The fringe-eared oryx is a very wary and unapproachable species where it has been much hunted. As in the case of the other species of oryx, instances have been recorded of successful encounters with lion on the part of this antelope. It is possessed of considerable vitality, and, like the sable and roan, it should not be approached when wounded.

BUSH-BUCK (*Tragelaphus sylvaticus*)

Bush-buck, of which there are several varieties, are scattered fairly generally throughout Tanganyika. The call is a single hoarse bark, which is used as an alarm note, and frequently indicates the detection of a carnivore or follows the grunt of a leopard. The meat of the bush-buck is good, but some native tribes will not touch it.

The bush-buck is quite the most sporting of the smaller antelopes. Many a dog has been killed by it, and many men on going up to a wounded ram have been pierced by the sharp twisted horns, for the bush-buck is not only plucky, but remarkably quick. The female is hornless.

SITUTUNGA (Tragelaphus spekei)

Native name: *Nzobi*.

Situtunga are present in very fair numbers in the swamps and rivers of the Malagarasi system, which includes the Ugala waters and empties into Lake Tanganyika, and in the swamps round the margins of Lake Nyanza.

Where hunted, they spend most of their time in the swamps, and their curiously elongated hoofs splay out and keep them from sinking. They are excessively hard, indeed almost impossible to see and to kill in the tall, dense papyrus, but they feed outside it at night, and may be intercepted before their return to it in the early morning.

GREATER KUDU (Strepsiceros kudu)

Native names: Kiswahili—*Tandala*. Chigogo—*Tichilo*.
Kinyamwezi—*Tandala*.

For abundance of greater kudu, the handsomest of the larger antelopes, it is probable that no country approaches Tanganyika. Greater kudu are found in small, separated herds in most parts of the "miombo" wooding which covers two-thirds of the Territory, and in very considerable numbers almost throughout the dry Central Province and in north Iringa. Good heads of 54 inches or thereabouts may be obtained in most of these localities.

Kudus are browsers. They are not easy to get, and their hunting provides excellent sport. Their colouring is very protective; they are particularly wary, and their senses are extraordinarily acute; they are addicted to dense, or fairly dense, bush, and are expert in travelling through it with their horns laid back on their withers or slanted to this side or that so as to pass through narrow openings. They tend to live in broken country, and fairly hard walking may be necessary for the sportsman who wishes to obtain this king of antelope trophies. The great-eared females are hornless, and are much smaller than the bulls.

LESSER KUDU (*Strepsiceros imberbis*)

While, owing to retiring habits and protective colouring, the lesser kudu is relatively seldom seen, it is by no means uncommon, and it is well distributed throughout the great central area of the Territory that is characterized by acacia and thicket as opposed to "miombo". Its range comprises nearly the whole of the Northern and Central Provinces and north Iringa.

The very beautiful horns differ from the much larger horns of the greater kudu in that they seldom run to a great space between the tips, while their spiral is closer. South Mpwapa, parts of the road between Dodoma and Iringa, parts of Kibaya, and Ngaruka, Mbuguni and Ngare-Nanyuki in the Arusha district are only a few of the many spots where this handsome antelope is found.

ELAND (*Taurotragus oryx*)

Native names: Kiswahili—*Mpofu*. Chigogo—*Nhougolo*. Kinyamwezi and Kisukuma—*Nimba*. In Bukoba—*Ntamu* or *Nshwaga*.

The eland is the largest of the antelopes, and a full-grown bull is heavier than a large ox, weighing up to 1,500 or 1,600 lbs. The meat and fat make excellent eating. Elands are strong and of good shape, and an occasional animal has been trained to pull in the yoke. They are placid and docile, and even full-grown animals have been readily tamed after capture.

Elands can be run down easily by a horse, but, like the kudu, they are exceptional jumpers.

Elands were decimated by the great rinderpest outbreak of forty years ago, and are susceptible to such outbreaks of the disease as still recur, but they remain quite ubiquitous and over much of the Territory are extremely abundant. They run often in quite large herds, of occasionally as many as from two or three hundred individuals. Thirty-inch horns are of not too infrequent occurrence, particularly in the females, the horns of which are much thinner than those of the bulls. In old bulls the horns are often greatly worn down.

A new race of eland was described from Iringa a few years ago, and there is a possibility that the herd which inhabits the high levels of Kilimanjaro may also prove to be racially distinct.

(c) THE SHOOTING GROUNDS

1. BUKOBA

The Kagera country, in the east of the Bukoba Province, is a fine game area. Elephant are present and buffalo and rhinoceros are abundant, particularly the latter, which often possess good horns. Defassa waterbuck, reedbuck, oribi, roan, topi, impala and eland are all found in considerable numbers. Hippopotami are present in the Kagera River and Lake Nyanza. Situtunga are found in the lake-shore swamps.

This area may be said to include the Nyamirembe Bay area of the Biharamulo district where game is abundant. The rest of the Biharamulo district, however, is not a good game country.

2. THE SERENGETI PLAINS

The area known as the Tanganyika Serengeti is bounded on the north by the Kenya-Tanganyika boundary, extends southwards to Lake Eyasi, includes most of the Musoma district and the south-eastern portion of the Maswa district, while on the east it is bounded by the Rift Wall. The area is to be distinguished from the Kenya Serengeti, which lies between Moshi and Voi.

The plains consist of undulating country with open spaces or acacia wooding. They are mostly free from the presence of cultivating natives, but are grazed in part by herds of Masai cattle. The area is notable for the amount of plains game which it contains, namely Coke's hartebeest, wildebeest, Grant's and Thomson's gazelles, zebra, ostrich, giraffe, eland, impala and oribi in parts, roan antelope, topi and rhinoceros. There are numbers of lion. As a rule the early rains are light in the Serengeti, and the small dry season is marked so that shooting can generally be continued until towards the end of February.

The greater part of the Serengeti was recently declared a Closed Reserve, in which hunting and photography is prohibited except under permit. But *bona-fide* shooting parties should experience no difficulty in obtaining the necessary permission to hunt or take photographs in that part which has been proclaimed a Closed Reserve.

3. THE NORTHERN PROVINCE

Although parts of it are now much settled and although considerable shooting of game has taken place in localities in which it formerly abounded, the Northern Province still affords some of the great game shoots of the Territory.

The diverse nature of the country, with its open volcanic plains, its stretches of thorn-bush, its lofty mountains and scarps covered or chequered with rain forest, and its stretches of nearly impenetrable secondary thicket, assures a great variety of game animals. The province contains the heavy game to be found in the heavy-bushed areas such as Mahenge, but, in contrast to these, it is also, in the highest degree, a "plains game" area.

A number of its finer localities will here be taken seriatim, but as the province is a favourite centre for shooting parties, and as settlement is developing, there can be no guarantee that what was a good locality yesterday will still remain so to-morrow.

(a) Moshi may be regarded as the centre for the following shoots:

Lake Jipe.—This lake, lying on the border of Kenya Colony and Tanganyika, is the centre of good shooting country on both sides of the boundary. Rhinoceros and lesser kudu abound in the thick bush of the slopes of the northern Pare Mountain; buffalo are present; greater kudu have been reported, and, between the hills and the lake, where much of the country is more open and where permanent waters are scattered, are numbers of eland and all the usual plains game.

Weru-Weru.—This, a short way from Moshi on the Arusha road, is a country of dense secondary thicket in which may

be found elephants, rhinoceros and buffalo. It is very difficult country to shoot in, but, with a good guide, a fair pair of tusks might be obtained.

Arusha-Chini is on the Moshi-Kibaya road. It is situated in rough, thick-bush country which does not afford easy shooting, but the area offers an abundance of a few species of game, such as elephant, rhinoceros, buffalo, lesser kudu, waterbuck and impala.

Engare-Nanyuki.—After the main road from Moshi to the Engare-Nairobi farms is left behind, some good country for rhinoceros and lesser kudu is traversed. The country is a centre of settlement, but between the farms and Longido are plains with the usual plains game and plenty of lions. Engare-Nanyuki swamp is an important drinking-place for Masai cattle and for all kinds of game, such as oryx, eland, wildebeest, hartebeest, gazelles of both species, and gerenuk which visit it in numbers. Lions are constantly present, and are found in some numbers also between Engare-Nanyuki and Engare-Nairobi. Lesser kudu are numerous, and it is said that there are a few greater kudu.

The two small salt lakes in a straight line between Ngera-ragwa and Engare-Nanyuki often afford good duck shooting, as does the Masai furrow on the Ngaserai plain.

The Sanya Plain.—This, on the main road between Moshi and Arusha, has been greatly shot out, but on the Arusha side of it some species of game are still fairly plentiful and eland are often present. Between this and Arusha is good reedbuck country.

(b) Arusha is an excellent centre for the following localities:

The *Shamburui swamp* and Mbuguni, some thirty miles from Arusha, from which the area may be reached by car. Here is a herd of buffalo, from which good horns have been got, while rhinoceros, lesser kudu, eland, hippopotamus and all the plains game can be found.

Ardai, which is about twenty-five miles out on the Arusha-Dodoma road, has been used as a centre for shooting plains game, and lions are sometimes plentiful. Permanent water is present both here and in a Government dam two miles from the road.

Rasha-Rasha (Mondul), about sixteen miles from Arusha. In the dense forest on the hill are rhinoceros and buffalo and also the great forest hog. Elephants, from Mount Meru, are very occasionally present. Elands are sometimes plentiful and round the mountain are the ordinary plains game. At Feregi, on the northern side, the rhinoceros lie up in the bushy ravines that traverse the more open country. The rhinoceros of Rasha-Rasha have shared with those of Ngorongoro, Bukoba and Sonyo the reputation of having perhaps the best horns in the Territory. There are permanent waters round the mountain.

The Arusha-Nairobi Road.—An hour off this road to the left, some thirty miles from Arusha, is a permanent water known to the Dutch as Geel Doorn, from the yellow-barked trees of *Acacia-seyal* that are present. A fair shoot may often be got here of the ordinary plains game, including oryx. From here on to Longido the shooting is even better, but water is absent. A few rhinoceros have sometimes been present in the neighbourhood of the road, drinking at Geel-Doorn, and even as far away as the Engare-Nanyuki water.

Mount Lolkisale, prominently in view south of the road all the way from Arusha to Mbugwe, and with permanent water, is a further good centre for most of the various species mentioned already, and is the easternmost point here for roan antelope. Roan may be found here and there, but not in great numbers, between Lolkisale and Mount Ufume.

(c) Mbugwe is an open and closely settled plain with a trading centre, Madukani, that is eighty-four miles from Arusha on the Great North Road. It may be taken as the centre for the following shoots:

Kwa-ku-chinja, about eighteen miles back from Mbugwe on the Arusha road. All the plains game, oryx and plenty of lion may be obtained. There is a small Nyamwezi settlement on the road, and permanent water.

The Tarangire River, which runs from Kwa-ku-chinja in a southerly direction past Ufume. It is a permanent stream and swamp, and elephant, buffalo in plenty, hippopotami, and, in the country round, lesser kudu, oryx, eland and the usual plains game are found. Lions are plentiful. There is a

good camping-site and excellent water at the south end of the swamp. That in the swamp is brackish.

Mount Essimangor and Mto Mbu.—On the forest on the mountain may be found good rhinoceros and buffalo. Below, and across to Mto Mbu on the north of the Mbugwe swamp is good country for buffalo, hippopotami and elephant, while in the more open country oryx and the other plains game are obtainable. Between Kwa-ku-chinja and Essimangor Mountain have at times been a number of cheetah. There are good waters round the mountain, but a more usual camp is Mto Mbu, where also, sometimes, are plenty of lions.

A little south of Mto Mbu is another good camp site, Kitole, with rhinoceros, buffalo, hippopotami, eland and lions.

Between Mbugwe and Babati, in a tsetse-fly belt, are plenty of impala, eland and zebra, and some hartebeest, while near the Rift Wall to the west are elephant and buffalo, waterbuck and a few rhinoceros.

From Mbugwe to Mto Mbu.—From Mbugwe to the scarp and from this to Mto Mbu, between Lake Manyara and the Rift Wall, is a strip of excellent country for a few species only, namely, elephant, buffalo in plenty, rhinoceros, impala and lions.

(d) The Babati area, in which is an excellent roadside camp with a charming lake and an aerodrome on the Great North Road, is some twenty-five miles south of Mbugwe. Not much game is found at Babati itself except reedbuck and impala, with duck and a few hippopotami in the lake.

Ufume Mountain.—On the mountain are elephant, buffalo and greater kudu. Between Ufume Mountain and the Tarangire, elephant pass to and fro, and there are rhinoceros in numbers, greater kudu, lesser kudu, impala and eland, and the usual plains game and lion. At times there are plenty of oryx and roan.

From Pienaar's Heights, south of Ufume, a road branches off east to the Galapo Mission and from here runs the old caravan road, now hard to pass, to Arusha via Lolkisale. This traverses useful game country and a large open wet-weather swamp. In the strip between this swamp and the

main road from Babati to Kondoa, tsetse research operations are taking place, and no shooting is permitted.

Dareda to Mount Hanang or Guruwe.—A motor road serving a group of farms runs from Babati to Dareda, under the Rift Wall and near the source of the Bubu River. Cars pass thence from Dareda to near Hanang, a conspicuous extinct volcano that stands in the Great Rift Valley. There are hippopotami in the Bubu River, and between that point and the mountain are traversed some open plains, the country of the Mangati tribe, with numbers of animals of the usual plains species.

(e) Mbulu is an excellent game district and contains plenty of rhinoceros. The following localities deserve mention :

The Former Mbulu Game Reserve.—This contains elephant, rhinoceros and buffalo, but the better tuskers have been shot out since the abolition of the Reserve.

Between the Reserve and the Ngorongoro Crater is good mixed shooting, and there is a fair chance of obtaining rhinoceros.

The *Yaida (Hohenlohe)* depression and the surrounding country is particularly excellent country for rhinoceros, both as regards numbers and size of horn. Buffalo are present and elephants pass. The general shooting is good.

Ngaruka.—This is an alien native settlement on rich soil at the south-west corner of the Lake Natron Game Reserve. It is an excellent camp for a shoot. Elephants are sometimes present and buffalo always. It is good spot for oryx, eland and lesser kudu, while gerenuk can also be shot. There are plenty of lions in the vicinity.

(f) *Kibaya* in southern Masailand is a wide country of thorn-bush, extensive dense thickets and occasional large open plains. The usual game is found on the plains and Grant's gazelle is, in general, the most characteristic of the animals. Elephants are present in the district in fair numbers, and there are some herds of buffalo, of which that near Kibaya is regarded as specially dangerous.

It is impossible to analyse localities here, without a very detailed personal knowledge of the area. Suffice to say, therefore, that near Kiberashi, just over the Handeni border, the

general shooting is good, and elephants, some with fair tusks, are found to the north and also nearer Kibaya. At *Kilima-cha-mbogo*, opposite the well *Kisima-cha-Mungu* on the road thence to Kibaya, are buffalo, elephant, rhinoceros, with greater kudu on the top of the hill, while on the flats is a mixed assembly of game.

4. SINGIDA AND THE NEIGHBOURING DISTRICTS

Singida is a good district for elephants, and magnificent tusks have come out of it, though these are now hard to get. Rhinoceros are moderately plentiful, particularly in the thicket country at Samumba, in the east of the district. Greater kudu are present and move back and forth from ten miles south-west of Singida to about forty miles further away, where they are always abundant about the Mpipiti thicket. On the road to Mbulu are open plains with the usual plains game, the hartebeest still being Cokei. On the Basuto Lake near here there are very fine impala, also eland, giraffe, leopard and lion, while the bird-shooting is magnificent. Duck, sand-grouse in very great numbers and crested guinea-fowl may be shot here.

On the Mponde River is a herd of about 250 buffalo containing some excellent heads.

Kondoa Irangi, a fair district for game, is a passage-way for elephants between Kibaya and Singida. Two areas in this district are preserved from shooting for the sake of tsetse research work.

A party passing between Kibaya and Singida might obtain some fair incidental shooting south of the area and perhaps pick up a fair elephant, but this country would not be worth visiting specially. Roan, greater and lesser kudu, eland, zebra, giraffe, buffalo and rhinoceros are present, the last-mentioned in fair numbers sometimes near Samba and Handa. The second of these two places offers fairly easy conditions for rhinoceros shooting, but large horns cannot be expected.

Manyoni.—A great thicket area extends from Matalale in east Singida, south of the Wembere Steppe, south-eastwards through Itigi and across the Central Railway to a point

twenty or thirty miles south of the latter. It appears to act as a barrier to the advance of tsetse fly from the Tabora Province and is also fairly exclusive of most species of game. A good many rhinoceros inhabit it, while, in parts, there are greater kudu in its margin and elephants use it much. Very big elephants are reported in the southern parts of this thicket, but no exceptional tusks are definitely known to have come from it. Elands and many other species of game are plentiful in parts of Manyoni, especially in the south.

5. THE WEMBERE STEPPE, LAKE SIBITI AND MKALAMA

The Wembere Steppe may be approached from Manyoni via Singida by motor road to Mkalama; from Tabora by motor road to Asmani's village (one hundred and six miles) or Sekenke; or from Nzega or Shinyanga by motor road to Sekenke, which is a gold mine on the edge of the steppe.

The Wembere Plain is nearly a hundred miles long and up to twenty in breadth. It empties, when full, into Lake Eyasi through the channel of the Sibiti River.

Like many such steppes it has its periods of much game and little. The animals are flooded out of it in the heavy rains (when also water is plentiful everywhere), but come to it fairly early in the dry season. They tend, however, to leave its southern portions again at the end of July, by which time the water on the Tabora side will not suffice to support a large party caravan.

The following animals may be found during the period of the presence of game in the open steppe or in the more bushy country south of it: buffalo (especially in the south); white-bearded wildebeest (abundant in the plain); roan antelope (in the light bush near the plain); Coke's hartebeest (on the plains); Lichtenstein's hartebeest in small numbers (in the bush on the edge of the plain); eland (sometimes on the plain in great numbers); impala and greater kudu; a few lesser kudu (in the thick bush on the west); giraffe; ostrich and zebra, which are both very numerous in the open; a few rhinoceros and elephant in the direction of Singida; lion and jackal; the large Imperial and smaller Pintail sand-

grouse, which are extremely abundant; greater bustard (very common on the plain); lesser bustard; the spur-fowl and the helmeted guinea-fowl.

Mkalama.—The country on and about the Dulumo River just north of Mkalama and thence on the motor road round to Sekenke is often full of game such as rhinoceros and elephant (though there are no good tuskers), eland, impala, Coke's hartebeest, zebra, etc.

Lake Sibiti is beside the road just mentioned and is not far from Sekenke. It contains usually a magnificent assemblage of ducks and geese, and in the heavy swamp vegetation beside it is a good herd of buffalo.

6. THE TABORA PROVINCE

Game is moderately well distributed in the enormous open "miombo" forest which fills the bulk of the Tabora Province, but in comparison with some other areas it offers no particular attractions, except to those wanting the sable antelope. On two of its borders game is particularly plentiful, namely, the Ugala River and the Wembere Steppe. To those visiting Tabora in general, the following notes may be useful.

The commonest and best-distributed animal is the roan, but eland, hartebeest, zebra, giraffe, reedbuck, oribi, klipspringer and greater kudu are found in every suitable locality, the first six species being present in very fair numbers, and impala and waterbuck (mostly Defassa) wherever there is permanent water. Sable are well distributed. In one known locality, namely, the Ngombe River bridge on the Kahama road, is a herd of the common waterbuck. Bushbuck are not common; Sharpe's steinbuck is present in parts, as well as the common steinbuck. Duiker are not very plentiful, but Thomson's gazelle are found on the Wembere and in the various plains of Shinyanga. Elephants are present but chiefly in the rains, entering largely from Singida, Kigoma and Ufipa. Rhinoceros are few, and are confined to the slopes of the Wembere basin and the Mwala and Nyahua Rivers. There are buffalo in the Nyumbuzi swamp and in the south-east of Shinyanga. Francolins breed from February to April and are

fit to shoot by August. Ducks do not appear to breed, as they are always in flocks and depart in April, presumably for their breeding-grounds, but spur-winged geese breed in the reed-beds along the Ugala River. There is good snipe shooting in parts of the province and notably at Tabora itself.

The game concentrates on the Wembere Steppe and Chaya Lake and, on the west and south, in the Nyumbuzi swamp and Ugala River as the country dries up.

7. THE UGALA RIVER AND RUKWA VALLEY

Ugala is in reality the name of a piece of country bordering this river and not of the river itself. The latter is commonly known to the local natives as "the River". A shoot here can be combined with one in the Rukwa valley.

In the Ugala country there are sable, roan, Lichtenstein's hartebeest, topi, Defassa waterbuck, eland, impala, at least two species of reedbuck, bushbuck, situtunga (though these are difficult to obtain), duiker, zebra, giraffe, lion and leopard and a few hippopotami. To the south-east of the Katavi Game Reserve, topi and roan rather increase, and elephants may be found at the time of the animal migration in July when the palm fruits ripen. There are some buffalo near Namanyere and in the rain forest eight miles east of Sumbawanga. At Sumbawanga also are said to be situtunga. In the neighbourhood of Lake Rukwa may be found, in one locality or other, most of the various species mentioned already. Good elands may be had and there is a fair certainty of lion.

There is commonly a great assemblage of game at Lake Rukwa in the dry season. On the northern scarp of the depression are greater kudu and a few rhinoceros, while on the flat country above it are plenty of oribi and Sharpe's steinbuck.

The game increases in the area of the Lupa River during the rains.

8. THE BOHORO FLATS AND THE UPPER RUAHA

Round about the Ruiwa River on the way to the Bohoro flats from Mbeya are oribi, and from swamps on the north

of the road at the west end of the Bohoro flats, below the Usanga escarpment, *situtunga* have been reported. On the Bohoro flats themselves is a fair abundance of game of certain species, viz.: Lichtenstein's hartebeest, eland, topi, impala, reedbuck, giraffe, zebra and sometimes buffalo or elephant.

The Ruaha River, followed thence northward, provides quite good shooting, there being present impala, eland, greater kudu, waterbuck and other species, as well as plenty of elephant, though there are no good tuskers. The last-mentioned animals move between the swamp and the river, and their movements connect westward through the dense Tantaramali forest with those of the elephants of Rukwa and Katavi.

9. KILOSA

Kilosa, the headquarters of the Game Department, is a good starting-point for a "safari", and game country commences close to it. Both to the north-east, in and about the former Wami Game Reserve, and to the south, off the Mahenge road, buffalo, sable antelope, Lichtenstein's hartebeest, wildebeest, eland and impala may be had, with a possibility of greater kudu and, further away, of rhinoceros or elephant. Continuing the journey into the Iringa district or proceeding up the railway line to Gulwe or Gode-gode, the sportsman should find greater kudu with some certainty; or, well north of Kilosa, by a rough car road swinging round to Mpwapwa, both oryx and gazelle.

10. MAHENGE

The Mahenge shooting area would include parts of the Kilwa and Rufiji districts. It is a heavy-game area carrying elephant, rhinoceros and buffalo; but there are many antelopes also, such as sable, Lichtenstein's hartebeest, greater kudu, puku, eland, impala and lion.

This shoot should not be undertaken after November. The best starting-point is Kilosa, and full information regarding it can be obtained from the Game Warden there.

11. KILWA, LINDI AND SONGEA

In many parts of these areas there is a fair abundance of game, and elephants are present in all, though there are few good tuskers to-day, and the general remarks made of the Tabora Province hold good here. A man going to these areas may get a good shoot, particularly on the Rovuma River, but there are other areas which provide better sport.

(d) THE GAME LAWS

It is essential that any visitor or resident wishing to shoot game in Tanganyika should be acquainted with the game laws. In order that these may be available for reference and perusal, the Game Ordinance and Regulations, amended up to the 15th April, 1930, are printed in full as Appendix VIII. to this Handbook. Amongst other information the cost and the different kinds of game licences, the game reserves, numbers and species of animals which may be shot, etc., will be found in the relevant sections of the Ordinance and Regulations. The game reserves are also illustrated on the map at the beginning of this chapter.

Game Ordinance and Regulations.

(e) ARMS AND AMMUNITION

The choice of a battery for big-game shooting in Africa has been for many years a fruitful subject of discussion in books of travel and sport and in papers such as the *Field*, and it would be out of place in this Handbook to do much more than summarize briefly the views of the different schools of thought. There are two quite separate controversies, firstly, as to the merits of the double-barrel as against the magazine rifle and, secondly, as to those of the large bore against the small bore rifle in dealing with dangerous game.

The choice of a battery.

Argument as to the relative merits of the double-barrel as against the magazine has come again to the fore with the recent manufacture of larger-bore magazine rifles and the conversion of more than one well-known hunter to the use of the latter. Those who champion the cause of the double-barrel claim that the two shots which can be fired *without breaking aim*

and the quick reloading are more valuable than the five that can be fired from a magazine rifle, with a *complete* break of aim between each shot.

It is a matter for the most part for individual trial and decision, as the adept with the shot-gun would be more at home with the feel and balance of a double-barrel rifle, whereas an expert in quick shooting with a magazine would be happier with the latter. There are circumstances, however, in which the majority of sportsmen would prefer to use the double-barrel, for example, against a charging lion or a charging animal in dense bush when continuity of aim is important and when there is little chance of more than one or two quick shots.

In the second controversy, namely, the respective merits of large- and small-bore rifles against dangerous game, the argument evolves itself into "shock versus easy handling". It may be said that there are three purposes which a rifle used against dangerous game has to fulfil :

- (1) To stop a charging animal.
- (2) To kill quickly and to avoid a long, and, with some animals, a dangerous pursuit.
- (3) To avoid wounding and causing slow death from wounds.

In the hands of any but experienced shots a light rifle is relatively useless for these requirements. Safety is the first essential, and the shock which is delivered by the heavy bore rifle may turn or disable a charging animal when a lighter bore would not. It is almost equally important to avoid merely wounding an animal, and the gravest charge against the small-bore rifle, when used on large game, is that it sends away a far larger number of wounded animals than the heavy bore. In this connexion it is interesting to note that a member of the Game Department of Tanganyika has seen an elephant drop dead from a shot from a 450/400 rifle which missed the brain altogether. The track of the bullet was traced and the bullet was found under the skin and on the other side of the head, which suggests that the elephant had died from concussion, an effect which no small bullet would have produced.

In conclusion, the considered advice of the Game Depart-

ment is that a heavy rifle is essential for heavy game, in which category may be included elephant, rhinoceros and buffalo.

The battery of those who accept this advice will be a double-barrelled cordite rifle of large calibre, for dangerous game, preferably in the neighbourhood of a .450 or .475, and a lighter bore for antelope. Black powder rifles are obsolete and should be avoided, while the very heavy bores such as the .577 are not only heavy to carry but in the hands of a man of slight build are likely to sag, on account of their weight, at the moment of discharge. Single-barrelled heavy rifles can be picked up from time to time at a much less cost than double-barrelled rifles, but it is foolish to forgo the extra protection afforded by a second barrel and, possibly, to risk life and limb in order to save a few pounds.

For antelope, there are a number of excellent light-bore magazine weapons varying in calibre from .250 to .350, most sportsmen preferring something about .275 or .318, though the first of these is dangerously light for lion and over-light for large antelope. It should be noted that the entry of the .303 rifle into Tanganyika is absolutely prohibited.

It must again be emphasized that the possession of two rifles, one of which should be of large calibre, is considered to be essential, and the sportsman of limited means who does not own a heavy bore can hire one for £3 or £4 a month from the principal safari outfitters in Dar es Salaam. But if for any reason the hunter is limited to one rifle only, something in the neighbourhood of the .350 to .416 magnums is advised, though the bullets make an unnecessarily large hole in the smaller buck, and do not afford the protection against dangerous game which is given by rifles firing larger charges and heavier projectiles with a consequently greater impact. The .318 and the 9 mm. Mauser are useful all-round rifles.

A shot-gun is an essential, not only for purposes of sport but to provide birds for the pot. A 12-bore is the best, as, while it is not always possible to get 16-bore cartridges at all the local stores, cartridges for the 12-bore can readily be obtained. Hammer guns are liable to damage in the hands of native gun-bearers. For this reason it is not advisable to

bring to Africa masterpieces of the gunmaker's art, as it is disheartening to see a valuable shot-gun dented from a fall on a rock at the hands of a careless bearer. The best kind of shot is No. 6, which will suffice for guinea-fowl, partridge or pigeon. For quail and snipe, which afford excellent shooting in certain localities, No. 8 is the most suitable shot. A few AAA or S.S.G. are useful either for small buck at short range or, in the last extremity, against a wounded lion or leopard, or at night at the shortest of ranges. A good native gun-bearer can be trusted to clean guns, but it will be better if the sportsman himself cares for his own favourite weapons, though it is sometimes a sore temptation to hand them to the gun-bearer at the close of an arduous day.

Arms and
ammunition
licences.

Arms and ammunition must be imported through one of the recognized ports of entry, and a licence must be taken out before they can be withdrawn from the customs. The licence expires on 31st March in each year and costs five shillings, unless it is taken out after 30th September, when a charge of Shs.2/50 is made. The licence covers any number of arms and specifies the maximum amount of ammunition which the holder is authorized to have in his possession at any one time. Arrangements have been made for the reciprocal recognition of arms licences issued in adjoining British territories.

Import of
arms into
the United
Kingdom.

Persons in the Territory desirous of taking firearms back with them to the United Kingdom must comply with certain formalities. Smooth-bore shot-guns and ammunition may be taken into Great Britain without any import licence, but any person in possession of a rifle or revolver, or of ammunition for such weapons, must procure a licence from the Imports and Exports Licensing Section, Board of Trade, Great George Street, London, S.W.1, before importation can be allowed. Failing this he will have to leave the weapons with the customs authorities at the port of landing until he obtains a licence. If the person is not in possession of a firearms certificate issued by the police authorities in the United Kingdom for such rifles or revolvers he must obtain one from the police authorities nearest the applicant's place of residence and produce it when applying to the Board of Trade for a

licence. The same formalities must be complied with before arms and ammunition can be imported into Northern Ireland, where shot-guns and ammunition are included in the definition of firearms. Applications either for firearms certificates or import licences in Northern Ireland should be addressed to the Inspector-General, Royal Ulster Constabulary, Waring Street, Belfast.

(f) OUTFIT, ETC., FOR HUNTING PARTIES

The majority of hunting parties to Tanganyika at present make their way to its northern hunting-grounds via Mombasa and Nairobi, a route suggested by the first glance at the map as being the most convenient. It should be explained, therefore, that the shooting-grounds in the Kilosa district, the Wami plains, and the Mpwapwa and southern Masai country are more accessible from Dar es Salaam, while those on the northern border are easily reached by car from Dodoma. It is desirable, though not essential during the dry season, to entrain cars from Dar es Salaam to Dodoma. A "safari" truck or box-body car costs about £196 in Dar es Salaam, but, even with the railway freight to Dodoma, the cost landed at Dodoma is less than the cost of a similar car purchased in Nairobi. Moreover, parties wishing to shoot in the northern hunting-grounds and travelling by Dodoma can, if they wish, motor in the dry weather from Dar es Salaam and obtain good shooting *en route* in the vicinity of the Wami plains and Kilosa. In fairness to Tanganyika, therefore, the prevalent impression that Nairobi is the inevitable starting-point for the shooting-grounds of the Territory should be removed.

A further cause for discriminating in favour of Nairobi as the starting-point for safaris in Tanganyika has been the absence in the past of any firm in Dar es Salaam contracting to supply shooting parties with all their requirements. It is true that in its early days the capital suffered from a lack of shops sufficiently stocked to supply these needs, but this deficiency no longer holds good to-day. The principal firm of safari outfitters, Messrs. Stewart's Stores in Dar es Salaam, is able to equip shooting expeditions and will, if desired,

arrange every detail of the tour from the booking of passages in London to the engagement of professional hunters, native servants, the provision of game and arms licences, etc.

As regards the purchase of stores and equipment it must be remembered, when comparing local prices with home prices, that the former include freight and a heavy customs duty of about 20 per cent *ad valorem*. It is possible that, by selecting goods in the cheapest market and taking an infinity of trouble, some economy may be effected by purchasing stores and equipment at home, and for the fastidious there is, of course, more choice in Bond Street than in Acacia Avenue, Dar es Salaam. On the other hand, visitors buying in England equipment for a shooting expedition in Africa will frequently find themselves saddled with accessories that are unnecessary and with stores which are redundant, with the result that, at the conclusion of their trip, they must dispose of them as best they can. On the whole, if advice can be tendered on so controversial a subject, it is wise, particularly for a new-comer, to bring only personal clothes and effects to the Territory and to buy or hire everything else locally, with the exception of guns which every sportsman, unless he already possesses them or is content with the somewhat limited local choice, will wish to choose from his own gun-makers. It is possible, however, to hire rifles locally, if desired.

Tents. A tent will be required. Green rot-proof canvas tents are obtainable locally as follows:

Dimensions, 10 × 8 × 8	.	.	.	£33 15 0
„ 9 × 7½ × 7	.	.	.	27 10 0

These can be folded into porter loads which require two or three porters to carry them, and can be carried in a lorry without taking up an undue amount of space. If larger and more expensive tents are required they should be brought out from home, but the above-mentioned sizes are quite sufficient and comfortable for a single person and can be erected in less time and with less labour than tents of greater dimensions which make up into five porters' loads or more. Second-hand tents can sometimes be bought locally, or tents can be

hired from the principal firm of safari outfitters in Dar es Salaam at a cost of about £3 a month.

As regards camp furniture, a folding X-pattern camp-bed, complete with mattress and mosquito-net and pillow, will be required, the cost locally for the complete bed and accessories being about £11. A small folding camp-chair, which can be quickly unpacked for meals taken on the road, is essential. It should be made in the simplest form, and chairs with metal clips which get rusty and break should not be chosen. The Roorkie type is comfortable for dining, but it takes time to set up in the hands of native servants. A long canvas deck-chair with a leg support is eminently desirable for resting in camp. A folding wash-stand, with an enamel basin fitted with a canvas cover with straps around it, into which sponges, soap, etc., can be placed, and a bath will form part of the equipment. Canvas baths usually leak in course of time, but fold up and are easy to carry. Tin baths are made with lids which lock down and with wicker linings in which bedding, boots and clothes can be placed and kept dry. Both have their merits and the final choice must be left to the individual. Bedding and blankets can be carried in rot-proof canvas bags provided with a hasp and padlock. A box or canteen is necessary to carry plates, glasses, knives and forks, etc. To those who are content to eat off and drink out of enamel ware an ordinary luncheon basket will suffice, but it is not in the least necessary to dispense with glass and china, though, naturally, breakages will occur in transit, and expensive wear should not be used. In this connexion it may be stated that cheap earthenware plates and crockery are obtainable at any small Indian shop in the Territory. A useful but more expensive article consists of a box made of three-ply wood and covered with green canvas which can be built to hold, within reason, whatever the purchaser desires, being divided into partitions for plates, cups, teapot, jam jars, etc., and with the lid fitted with leather bands to keep knives and forks in their places. For plates and cups, covers of thick green baize are provided to reduce the risk of breakage, while glasses are encased in cane covers. The cost of one of these canteens, which are obtainable in London, is about £10, but suitable, though

less elaborate, boxes fitted to hold plates, glass and cutlery can be made to order locally at a lesser cost. An alternative is to pack china and glass and cutlery in two or three wooden chop-boxes, wrapping them in paper and kitchen cloths.

Water and
water-
bottles

Water-bottles, covered with thick felt which keeps the water cool, are indispensable, and "chaguls", or canvas water-bags, are useful as they hold a considerable amount and by the evaporation caused keep the water fairly cool. At least two water-bottles should be carried by those who are unaccustomed to long marches, especially in the hotter parts of the Territory. Filters are cumbersome to carry and are not essential, but all water must be boiled. If water is thick, a teaspoonful of alum should be dissolved in a little water and then poured into about four gallons of water which should be stirred quickly for a few moments and then left without further stirring until sedimentation takes place and leaves the water clear. Where water is very thick it should be strained through a piece of flannelette made into a funnel and mounted on a stick like a conical butterfly net. This will remove the coarser particles and the strained water can then, if desired, be further cleared by being treated with alum, as above.

Medicines.

A medicine chest is essential, not only in case the traveller himself falls ill, but also because he will be expected to attend to the ailments of his servants and porters. It should contain the following drugs, dressings and implements:

Quinine bihydrochloride in 5 grain tabloids.

Potassium permanganate solids.

Boracic acid and zinc sulphate solids.

Iodoform powder.

Tincture of iodine.

Aspirin tabloids.

Zinc ointment.

Epsom salt.

Lint, cotton-wool, iodoform gauze unbleached, bandages, scalpel, dissecting and dressing scissors, artery forceps, silk ligatures, surgical needles, a glass syringe, a one-ounce measure, a probe and a vulcanite dredger.

At a number of centres native tribal dressers are stationed who are competent to deal with minor injuries, sores and

wounds, and are equipped with a stock of simple drugs, bandages, etc. A book of instructions as to how to deal with minor maladies and wounds is available at these tribal dressing centres and can be consulted in case of need, but a visitor could not rely on assistance being available in the hunting centres, which are, generally, remote from habitations.

The "safari" wardrobe should contain a solar topee, which is Clothes. essential between 8 A.M. and 4 P.M. On no account should risks be taken with the sun, though there are people who are able to wear a terai or even a small-brimmed felt hat during the midday hours. A felt hat can be worn after 4 P.M. White flannel shirts are comfortable to wear in camp, but make the wearer conspicuous to game, so that the best shirt for hunting is a khaki shirt, preferably made in the form of a tunic shirt, with short sleeves to the elbow only and belted at the waist. These can be obtained locally for about Shs.20.

Either khaki shorts or slacks are usually worn, the prejudice against the former being that they expose the knees to the sun and thorns, and afford no protection if the hunter is crawling during a stalk, while the knees will be bitten by tsetse fly in bush or covered with small ticks when going through long grass at certain seasons of the year.

The greatest attention should be paid to footwear. Good and comfortable boots are essential and without them the whole "safari" may be one of misery and discomfort. Hard leather can be softened by being rubbed with dubbin and zebra fat is often used for the purpose. Nails are desirable. Crêpe rubber soles are supposed to draw the feet, though many people have not found any truth in this supposition. Mosquito boots must be worn in any malarial country and good thick leather slippers are a comfort to the feet in camp at the end of a long day.

The best form of lamp for general use is the Dietz or hurricane lamp, which is cheap and serviceable, and can be obtained even in the smallest trading centres. It is the lamp in universal use among all sections and classes of the population when on "safari." A large petrol-gas lamp is useful for reading in camp, but is not essential. An electric torch will always be handy.

Field-glasses
and cameras.

Field-glasses and a compass with a luminous dial should be included in the outfit and, of course, a camera. Films of all well-known makes and sizes (including Kodak cinema films) are obtainable in Dar es Salaam and the larger centres, and films can be developed by photographic firms in Dar es Salaam. It should be noted that permits are required for the making and export of cinematographic pictures in the territory.

Motor cars.

Motor cars can be hired, if arrangements are made beforehand, at a cost, including petrol and a native driver, ranging from £3 : 10s. to £5 a day. As an alternative, a car can be purchased and sold again at the end of the shooting trip, the type which is almost invariably used for shooting "safaris" being a box-body car which costs just under £200 in Dar es Salaam.

Professional
hunters.

The game laws of Tanganyika provide for the registration of professional hunters with the object of ensuring that visitors can be put in touch with reliable men who have a knowledge of the country and its fauna. What the intending visitor to Tanganyika in search of big game requires is a man thoroughly accustomed to "safari" life, with a knowledge of the language and the country, and particularly of the habitat of the different species of game, able to manage native porters and employees and of sufficient coolness and marksmanship to assist his employer out of a tight corner with dangerous game. Such men, however, are not to be found without difficulty and the visitor will probably have to pay one not much less than £100 a month and expenses. The principal firm of "safari" outfitters in Dar es Salaam undertake to engage reliable and responsible white hunters.

Native
guides.

For those whose purse will not run to the employment of a European guide and hunter, it is frequently quite possible to obtain the services of a reliable and trustworthy native, generally an ex-sergeant of the King's African Rifles, and visitors who wish to get into touch with such men are advised to write or apply on landing, either to the Administrative Officers of Dar es Salaam or Tanga, the Game Warden at Kilosa or the Game Rangers, or to the principal safari outfitters. The longer the notice that can be given the better. The services of a native, of course, are limited, but he will be

able to act as an interpreter, marshal the "safari" and manage the porters, pitch and strike tents, etc. From the information given in the preceding part of this chapter the visitor will be able to ascertain the principal shooting-grounds and to make himself acquainted with the game laws, and once having settled on the localities he wishes to visit, should be able without difficulty to reach them and to hunt in them with the assistance of a really good native headman. To anyone with experience of African or Indian travel this course is commended, unless money is no object, when the employment of a white hunter will remove many minor difficulties from the path of the visitor.

A firm of taxidermists is established at Tanga and is able to prepare, cure and mount sportsmen's trophies as well as making them up into ornaments, mementoes, etc.

(g) REPTILES AND AMPHIBIANS ¹

REPTILES

Tanganyika, principally by reason of its larger area, but partly also from its topographical features, possesses a considerably richer reptile fauna than the neighbouring colony of Kenya; in actual figures Tanganyika has 230 species, or races, as against 174 recorded in Kenya. All the principal existing orders and sub-orders are well represented in the following groups, viz.:

Crocodiles	.	.	.	.	.	.	2
Turtles, Terrapins and Tortoises	.	.	.	.	.	.	12
Snakes	.	.	.	.	.	.	107
Lizards	.	.	.	.	.	.	84
Chameleons	.	.	.	.	.	.	25

The common crocodile of the Territory is the wide-ranging species usually known as the Nilotic crocodile and of all the reptile fraternity occurring in East Africa it is probably responsible for the most fatalities. In some areas the natives intelligently prevent a heavy mortality by providing their

¹ The Editor is indebted to Mr. Arthur Loveridge, C.M.Z.S., of the Museum of Comparative Zoology, Harvard University, U.S.A., for the sub-chapter on the reptiles and amphibians of Tanganyika.

women with bailers consisting of gourds with long bamboo handles affixed, thus obviating the necessity of approaching the water within swishing distance of the saurian's tail. In other places, such as Mwaya on Lake Nyasa, the natives regard a monthly mortality of half a dozen women with complete indifference, permitting the women-folk to walk into the river to submerge their water-gourds. They will importune visiting Europeans or officials to shoot the sleeping monsters, but they themselves make no attempt to reduce the numbers of these reptiles by destroying the eggs.

In the early days of the British Administration, the Government, following the example of its predecessor, offered a trifling reward of a cent per egg for crocodiles' eggs, but so easily were these procured on Lake Nyanza during certain months that the local authorities became embarrassed by the daily procession of natives bearing baskets of eggs which had to be counted, destroyed, and decently interred.

The inclusion of a second species of crocodile in the Tanganyika list is based upon a single German record of the occurrence at Ujiji of the West African long-nosed crocodile. As this species occurs in the Congo River and its tributaries the specimen in question probably entered Lake Tanganyika from one of its affluents. More recently at least two others have been killed in the vicinity of Kigoma by British residents, though this constitutes the first published reference of the record.

Turtles, etc.

Three of the twelve chelonians are marine turtles, and include the well-known herbivorous green turtle, which furnishes the turtle soup for aldermanic dinners, and the inedible, carnivorous hawksbill turtle which provides the "tortoise-shell" of commerce.

Five other species are aquatic and inhabit fresh water. Of these two attain great size and possess a leathery integument covering and concealing the relatively small and flattened shell. These "flapjacks", as the American species are rather aptly called, are carnivorous and entirely aquatic, occurring in the larger rivers and in Lakes Nyanza and Nyasa, while time may reveal their presence in other large bodies of water. The three remaining aquatic species, frequently called terra-

pin, may be seen sunning themselves on the banks of pools and rivers, or even, usually at the commencement of the rains, walking across country in search of more congenial quarters.

The helmeted water tortoise is distinguished from the black water tortoise and Smith's water tortoise by the possession of a normal, i.e. immovable, lower shell (plastron), while in both the others the anterior part of the plastron is movable. On the approach of danger these turtles withdraw the head and fore-limbs within the shell and raise the lower portion like a drawbridge, thus completely protecting the head from attack.

It is interesting to note that one of the terrestrial tortoises of the Territory has a hinge developed in the opposite direction, for in Bell's tortoise it is the posterior portion of the upper shell (carapace) that closes downwards to protect the tail and hind limbs. The hinge, however, is rather imperfectly developed in this species, but serves to distinguish it from all others in Tanganyika.

Another of the land tortoises, though rarely seen except by collectors, is known as the soft-shelled land tortoise and is of exceptional interest by reason of its having undergone shell-reduction till the bony carapace is little thicker than paper while the central part of the plastron has entirely disappeared, leaving a diamond-shaped fenestration. This species, known chiefly from the Central Province, also occurs at Tabora and in the Lindi hinterland. Its shell-reduction and flattened outline is correlated with its habits, for it dwells on kopjes and seeks protection beneath and among the boulders. Should one attempt to remove a soft-shelled tortoise from its retreat it inflates its lungs to exert pressure against boulder and ground, then, bracing its legs as struts, it firmly resists the efforts to withdraw it from its place of refuge.

The land tortoise most commonly met with, however, is the handsome and wide-ranging leopard tortoise. This beautifully marked species attains a size far surpassing an ordinary sun helmet but such large examples are not very often encountered. They are much sought after for food by such tribes as the Wahehe and Watatusa.

Among reptiles it is the snakes which most often form the Snakes.

subject of inquiry from outward-bound visitors, since to most minds the words "Tropical Africa" conjure up visions of deadly serpents in considerable profusion. As a matter of fact only twenty-two of the one hundred and seven species occurring in Tanganyika are dangerous to man.

Of the thirty vipers, the best known is the widely distributed puff adder, common throughout Africa south of the equator but not usually found at altitudes over five thousand feet. The chief danger from this creature lies in its sluggishness, which makes it unwilling to move out of the way, while its colouring frequently harmonizes very closely with the dead leaves or the ground on which it may be resting. It is often stated that these snakes strike backwards, but this idea is quite erroneous as the puff adder strikes precisely like any other venomous snake.

In the Usambara Mountains and at Kilwa, the puff adder has a close relative in the West African gaboon viper, a very heavy snake which attains a length of five feet. Both species feed principally on rodents, though the common puff adder, particularly when young, is partial to toads.

Three species of night adders occur in the Territory, and are not only vicious but are capable of injecting very large doses of venom from the poison glands which extend backwards from the head and lie for some distance along either side of the backbone. In districts where they occur they are usually met with towards evening when they are setting out in search of the toads which form their staple article of diet.

The four tree vipers usually occur only at high altitudes on the outskirts of rain forest where they can find the tree-frogs on which they subsist. They are best distinguished by their very short, strongly curved, prehensile tail; in colour they range from olive to vivid light green flecked with yellow or mottled with brown, while some possess a zigzag vertebral band. Most of the species seem loth to strike and it is probable that their venom is not very toxic.

Five burrowing vipers have been recorded, but four are rare. All are black or plumbeous in colour. They rarely come to the surface, but are dangerous (for their venom is highly poisonous) on account of the similarity of their appearance to

harmless snakes. Unlike those species mentioned above, the head is not broadened or triangular, posteriorly being no thicker than the body. Their poison fangs, which are enormous, at once proclaim the affinity with the vipers, for vipers or adders differ from all other species in the Territory by the possession of a pair of very elongated, movable teeth in the front of the mouth; these teeth fold back when the mouth is closed and are only erected when striking. The venom is conducted from glands, posterior to the eye, by a duct to the base of the tooth, which is hollow with an aperture near the point for the discharge of the venom.

The black and yellow sea snake probably occurs along the coast as an occasional visitor, for it has been recorded from Kenya and South Africa. It has short, fixed, grooved (not hollow) fangs, valvular nostrils and a vertically flattened tail with which it propels itself through the water in pursuit of the fish on which it preys. If cast upon shore by high tides it is helpless, for it lacks the broad belly scales by means of which terrestrial snakes progress.

The next group contains the most dangerous snakes, the mambas, cobras, garter snake (not to be confused with the innocuous North American reptiles of that name) and an unique aquatic relative found only in Lake Tanganyika. The garter snake presents two colour variations which were formerly supposed to be distinct species. It may be black ringed with fine white lines, or black with broad bands of white and red. It is not in the least an aggressive snake and will suffer itself to be picked up without attempting to bite.

The common cobra of East Africa is also variable in colouring, the commonest variety being a slightly iridescent plumbeous black, though olive, and even salmon pink, examples are to be found. The black-coloured form is frequently miscalled a black mamba, but whereas the cobra, when annoyed, will raise itself and spread a hood by erecting its ribs, the mamba cannot distend the skin of its neck to anything like the same extent. This cobra is the common "spitting snake" of East Africa and will discharge the venom from its fangs at the face of its opponent from a range of six feet. As long as the venom does not fall in the eyes (which it usually

does) or on an abrasion or cut in the skin, there is no cause for alarm and it is only necessary to sponge the venom away. To the eyes, however, it is a powerful irritant, causing instantaneous agony and temporary blindness. The eyes should be immediately washed either with milk, boric solution, a one per cent permanganate solution, or failing these, plain water.

The black-lipped cobra, as its name suggests, has the "lips" barred black and white. The back is uniformly shining black. The Egyptian cobra, which also probably spits its venom, is fortunately rare in the Territory except, perhaps, in the Shinyanga district. It is uniformly olive above and attains a large size, specimens over six feet in length being by no means uncommon; examples of the spitting cobra are not often found here over five feet though snakes of eight feet and more have been recorded.

The most dangerous of all African snakes is the common mamba, for though it appears less aggressive than in Natal and Zululand there are well-authenticated instances of its wantonly attacking Europeans. Both bright green and olive phases occur; the former being always under six feet and the latter generally over. Lonnberg's mamba was described from a single individual taken on Kilimanjaro and is possibly not a valid species but an aberration.

The only member of the back-fanged colubrine snakes definitely known to be dangerous to man is the boomslang, which, as it attains a large size, is capable of biting so as to bring into play the formidable fangs that are situated far back in the jaw posterior to the eye. It presents a bewildering variety of colouring, for wholly black, brown, red and green examples are observed, while variations of these occur. Like its ally the bird snake, also common in Tanganyika, it feeds on birds and chameleons.

The sand snakes (*Psammophis*) and their allies (*Trimorphinus* and *Dromophis*) are swift snakes of moderate size and several of the species are striped, though the hissing sand snake is a uniform olive or sandy buff. They are in many areas the most abundant snakes, the striped snake being dominant in the highlands of the south-west. As rodent eaters they should in no wise be destroyed.

It is to be regretted that the general attitude to snakes is still one of kill on sight, for not only are the majority non-venomous but many species are highly beneficial from the agriculturists' point of view. In the Uluguru and Usambara Mountains is a small black snake (*Aparallactus uluguruensis*) which lives exclusively upon centipedes, while a little olive-brown snake (*Duberria lutrix*) very abundant in the Iringa highlands, subsists almost entirely upon slugs. The little creature is of the thickness of a pencil and usually about nine inches in length; it never attempts to bite when picked up.

Space will only permit the briefest mention of a few of the great host of harmless solid-toothed species. The egg-eater, which has undergone tooth-reduction (teeth being incompatible with the swallowing of birds' eggs intact), cracks the eggs, when once they are safely in its gullet, by means of its vertebral processes; in this way none of the contents are lost. The shells are subsequently ejected.

The slender, graceful green snakes (*Chlorophis*), so often found sunning themselves upon bushes, have seven species in the Territory. Though they bite readily enough when first seized, the bite is harmless. They do well in captivity if fed upon frogs. Care should be taken, however, not to confuse them with young green mambas, which are very similar.

Many species common to South Africa occur in Tanganyika. Among them might be mentioned the olive grass snake, the brown house snake, the wolf snake, the Cape file snake, the bush snake and the mole snake. The last mentioned, by pursuing rodents down their holes and swallowing the entire litters of young, is a distinct economic asset to any rat-infested plantation.

The African python is usually to be found in the vicinity of the larger rivers, and freshly removed skins have been found to measure up to thirty feet in length.

No less than twenty-two of Tanganyika's snakes are the termite-, slug- or caterpillar-eating blind snakes, which are often miscalled blindworms. It is true that they present a very similar appearance to the European blindworm (*Anguis fragilis*) but whereas that reptile is a limbless lizard, the East

African blind snakes of the genera *Typhlops* and *Leptotyphlops* are true snakes.

Lizards. Only eighty-four lizards have been found in Tanganyika Territory, but this number will undoubtedly be augmented. Probably the first seen by any new arrival in the country will be the house gecko, whose pallid form, with bright bead-like black eyes, glides down the white-washed walls as soon as the lights are switched on. Notwithstanding any statement to the contrary by any native of East Africa, there is not a single poisonous lizard in the whole African continent; nor any which might be termed dangerous, except the big monitors, which are harmless enough unless molested. In the forests and upon the kopjes will be found nearly a score of relatives of the house gecko, a very familiar one being the yellow-headed gecko, so abundant on the tree-trunks in the avenues of Dar es Salaam, Tanga, Morogoro and elsewhere.

A dozen representatives of the genus *Agama* occur in Tanganyika. One with a brilliant blue head, the black-collared agama, lives on trees, but the majority frequent rocks and bob their red or yellow heads at the passer-by from a pinnacle or boulder beneath which they quickly disappear if pursued. Though partly herbivorous, the majority subsist almost entirely upon ants and the number which one lizard will consume in the course of a day is prodigious.

Mention has already been made of the monitors, of which three species occur in the Territory. These are the largest lizards in Tanganyika, those found on the great lakes looking almost like the crocodiles whose eggs they devour. When a monitor takes to robbing the hen-roosts of eggs or chickens it is best destroyed, but except for these miscreants the majority are distinctly beneficial, destroying large numbers of slugs, snails, caterpillars and crabs.

The *Zonuridae* are represented by three species, two of which, though they are rough scaled, are usually mistaken for snakes. The body and tail are enormously elongated and these reptiles wriggle away like snakes. The limbs are inconspicuous, being reduced to mere rudimentary flaps which may be two-toed or one-toed in the species (*Chamaesaura tenuior*) found in the grassland of the northern highlands; the one (*C.*

miopropus) from the south-western highlands has no trace of hind-limbs and the fore-limbs are reduced to minute-clawed vestiges. While these two lizards average about two feet in length, the third member of the family is rarely six inches long. It has stout, well-developed, five-toed limbs and is recognizable by the enormously developed spines on the tail.

The worm-like lizards of the family *Amphisbaenidae* are represented by six species in Tanganyika. They are very worm-like in appearance and semi-transparent but pinkish in colour by reason of the blood-vessels showing through the skin. The scales are degenerate and of rectangular outline. Amphisbaenids feed upon termites and rarely come to the surface except when attacked by soldier ants. They are rare in collections and much desired by the British Museum. One small species (*Geocalamus modestus*) discovered at Mpwapwa by the pioneer missionary Dr. Baxter, was not found again till forty years later when one was taken from the stomach of a banded mongoose (*Mungos mungo colonus*) in the Mkalama district.

Fourteen typical lizards of the family *Lacertidae* are to be seen in the Territory, and are the tropical relatives of the viviparous and sand lizards of Europe. Many are very handsomely coloured but all are of small size except the long-tailed lizard of the Central Province, which may exceed a foot in total length, some two-thirds of this being "tail". These lizards are the active little creatures which dart along and across one's path in many parts of the country. One bears the name of Speke, who found it in the Unyamwezi country, and another is named after Emin Pasha, who was the first to bring back an example to Europe from the southern end of Lake Nyanza. While most of the species are terrestrial, several are arboreal, and visitors to Amani should be on the look out for the beautiful blue-striped *Holaspis guentheri* which occurs there.

The *Gerrhosauridae* have several representatives of doubtful status in East Africa. The commonest is the yellow-throated lizard, a species handsomely striped with red, yellow and black; it is more often heard rustling in dry grass than seen, though it is very abundant at Morogoro and Kilosa. Eighteen inches is not an unusual length for the species. It

has a larger relative in the olive-brown, spiny-tailed *Gerrhosaurus major* which lives in rocky regions, such as the kopjes of the Central Province and the upper reaches of the river banks at Morogoro.

The glossy-scaled skinks, with twenty-five species in the Territory, are members of the dominant lizard family (*Scincidae*) in the area under consideration, and everyone will be familiar with the brown, striped skink, the "mjusi islam" of the Waswahili which dwells in peace with the owners of the huts on whose posts it basks or in whose thatch it spends the night. But slightly less numerous is the variable skink whose brown back is flecked with white and black. Along the coast, where coral rag occurs, the marine skink has made its home, seeking a livelihood from shrimps and slaters at the very edge of the waves from whose incoming boisterousness it flees to seek shelter in the numerous crevices provided by the rocks. A number of skinks are degraded in that their limbs are reduced in size or entirely absent, such species being specialized for a subterranean, worm-like, life.

Chameleons. Twenty-five kinds of these interesting reptiles have been recorded from Tanganyika and even that number is likely to be augmented. At one time Madagascar could boast of the greatest number of species but it appears probable that that honour must be accorded to Tanganyika. While the common East African chameleon (*C. d. dilepis*) or its races is often the only species to be found in the lowlands or savannah plateau, frequently each mountain possesses its own species, generally associated with rain forest upon whose outskirts they find abundance of insect life.

It is well known that chameleons capture their prey by the lightning-like dart of their sticky tongue, to which the insect adheres. The unobservant native, however, proclaims that they spit poison and in some regions like the Ubena highlands it is a matter of daily occurrence to encounter dead chameleons, killed by the Wabena, upon the paths.

An examination of many scores of chameleon stomachs has shown that their diet consists very largely of beetles, grasshoppers and caterpillars. Certain species appear to specialize or show preference for one or other of these groups. One en-

lightened coffee-planter in the Usambara Mountains used to encourage natives to bring and release chameleons upon his coffee trees. Undoubtedly the presence of chameleons is an asset to any plantation and it is to be hoped that education-ists and others coming in contact with natives will never let an opportunity pass without attempting to remove these groundless fears from native minds. No chameleon is poisonous, and the bite of all but the largest is unable to break the skin of the human hand, as the teeth have blunt crowns.

In size chameleons range from two-foot long giants like *Chamaeleon melleri* to the little two-inch long *Rhampholeon brevicaudatus*, the latter being one of three species which were separated from the typical chameleons on account of their lacking a prehensile tail. In armature they may possess one, two or three horns, or they may have no such weapons. While in certain species both sexes are horned, in others the females are hornless or have horns but feebly developed. In certain species the males have spurs on the hind feet, while one or two rare chameleons have spine-like developments of the body scales, quite distinct from the ridge of spines along the vertebral line.

AMPHIBIANS

Of the ninety odd species of amphibians occurring in the Territory only five are caecilians, the rest being toads and frogs.

Two species of smooth-clawed frogs (*Xenopus*) are to be met with in pools or lakes. These tongueless frogs are so entirely aquatic that it is a matter of very rare occurrence to encounter one out of the element which they favour. Toads and Frogs.

The square-marked toad, in appearance very similar to its near relative the common toad of Europe, is often referred to as a "bull-frog" by those who have heard the sonorous sawing-note of the calling males at the commencement of the rains. Many a European has found sleep wellnigh impossible because a company of these toads have selected some temporary catchment of water in the vicinity of his quarters as a base for their unmusical efforts. There are half a dozen other members of the genus, mostly of small size and lacking

eardrums, to be found in the Territory at altitudes of five thousand feet and more.

Tanganyika has in the two tree-toads of the genus *Nectophrynoides* the only known viviparous amphibia in the world. These tree-toads are to be found in wild bananas, but the larger of the two, *N. vivipara*, prefers to hide in the hollow centre of a bamboo; both may be collected on the wet, leaf-strewn floor of the mountain rain forest. It appears probable that this adaptation is to obviate the risks of having spawn or tadpoles swept away by freshets coursing down through the rain forest. If one dissects a female taken in September in the Uluguru Mountains, spawn will be found, in October tadpoles, and towards the end of that month and in early November a score or two of perfectly formed little toads.

Members of another family (*Brevicipitidae*) whose members are usually called narrow-mouthed toads, are also abundant in these mountains and have overcome the difficulty in another way. At least two species of the genus *Breviceps* have been found which, having dug little burrows with the shovel-shaped tubercles on their "heels", laid their eggs in the burrow and squatted guard over them. Another of these toads (*Hemismus marmoratus*) which, but for its sharp snout, looks rather like a little rubber ball, was found at Bagamoyo where it digs itself into the sodden soil at the base of domestic bananas and deposits its eggs; in some instances the eggs had already given rise to tadpoles which were wriggling about in the mass of jelly which had surrounded the eggs. The toad is widely distributed in Tanganyika and, for that matter, throughout the greater part of Africa.

In the Uluguru and Usambara rain forests three new species of the family recently were discovered living in the wild bananas between the outer leaf-stalk and the main stem. On the stem they deposit their eggs, which are constantly irrigated by the moisture seeping over them, and, when they eventually hatch, the tadpoles, aided by their exceptionally long tails, go slithering down the stem into the select bathing-pool which is retained at the base of every leaf-stalk. The resulting frogs—or toads—are of small size and present some peculiar features such as the protruding, needle-like bone,

which projects from the rudimentary "thumb" of the males of one species.

Where plantations of domestic bananas occur, one may usually find *Phrynomeroides bifasciatus*, a gorgeous creature of scarlet and shining black. This frog when handled exudes a milky-looking secretion from its dorsal glands which, if rubbed into the human hand, or if received on a hand that has been well immersed in water, produces swelling and irritation. It has long been known that toads defend themselves from dogs, or other carnivora, by similar secretions of the parotid glands. Apart from these trifling instances no amphibian in East Africa possesses any means of defence; none attempt to bite and should they do so they are unprovided with venom.

The great bulk of the amphibian fauna of East Africa belong to the family of the Ranidae or typical frogs which has no fewer than sixty representatives in Tanganyika. While the majority of these, as far as present knowledge goes, spawn in pools of water in the manner of the common frog of Europe, several have peculiar habits connected with their reproduction.

Arthroleptis stenodactylus is known to dig burrows in which it deposits its large round eggs in the way already described in connection with the genus *Breviceps*.

In the Central Province a whitish-clay-coloured tree frog (*Chiromantis petersi*) deposits much mucilage with the eggs on the edge of a pool. This mucilage is worked up by the hind-legs of the female into a frothy mass many times her own size. The eggs, concealed within, undergo development and the active wriggling of the tadpoles resolves the central froth to fluid which, breaking out, carries the tadpoles with it as it flows into the pool. As often as not, however, one sees many stranded tadpoles, provided they have escaped the hooves of game or domestic cattle which so often trample these nests into the mud.

A much better arrangement is that of a related species (*C. xerampelina*) which affixes its meringue-like mass of froth to the leaves of a tree overhanging a pool of water into which the tadpoles fall to complete their development. The advantage of this method is obvious but not so that of Peter's tree frog.

Many will be familiar with the little tree frogs of diverse

colourings and chameleon-like powers of changing them. They are often found on rose-bushes, fence posts and window ledges, though their more natural habitat is bananas or sedges. In the latter situation they can often be detected only by splitting the sedge open. Their larger allies of the genera *Hylambates* and *Leptopelis* appear to have spread to East Africa from the West Coast and to be chiefly associated with rain forests, though there are exceptions like that furnished by the red, black and silvery *Hylambates maculatus* which occurs in swamps north and south of Dar es Salaam.

Caecilians. Caecilians are very worm-like relatives of the frogs and salamanders. They dwell in the moist leaf-mould of the rain forests. In Tanganyika they have only been recorded from the Uluguru, Nguru and Usambara Mountains, where all five species are to be found. A sixth probably occurs elsewhere in the Territory and the discovery of others may be confidently anticipated. Members of the genus *Boulengerula* are less than a foot in length and of a grey or purplish-pink colour; those of *Scolecomorphus* are somewhat larger, attaining a foot or more in length and are jet-black or purplish-black with, or without, a brown dorsal stripe. At least three, and probably all, produce living young which are similar in appearance to their parents. All feed on termites and perhaps this diet is varied with ants.

(h) BUTTERFLIES

The following varieties of butterflies have been recorded in Tanganyika:

DANAIIDAE

Danaïda chrysippus, L.
petiverana, Doubl.
mercedonia, Karsch.
Amauris niavius dominicanus, Trim.
damocles damocles, Stand.
bulbifera, Smith.
ochlea, Boisd.
ochleides bumilleri, Lanz.
echeria, Stoll.
albimaculata, Butl.
Amaurina ansorgei, E. Sharpe.

SATYRIDAE

Melanitis leda, L.

Gnophodes parmeno diversa, Butl.
Mycalesis kenia, Rogenh.
miriam, F.
Mycalesis ena, Hew.
desolata selousi, Trim.
safiza, Hew.
dankelmanni, Rog.
fulleborni, Bartel.
campina, Auriv.
anyana, Butl.
vicaria, Thur.
martius, F.
saussurei, Dew.
aurivillii, Butl.
Henotesia perspicua, Trim.
victorina, Westw.
ubenica, Thur.

Henotesia teratia, Karsch.
Aphysonseura pigmentaria, Karsch.
Physcaeneura leda, Gerst.
Neocoenyyra bera, Hew.
ypthimoides, Butl.
gregorii, Butl.
duplex, Butl.
heckmanni, Thur.
Neocoenyyra victorias, Auriv.
jordani, Reb.
fülleborni, Thur.
parallelopupillata, Karsch.
Ypthima asterope, Klug.
granulosa, Butl.
simplicia, Butl.
impura, Elwes.
itonis, Hew.
albida, Butl.

NYMPHALIDÆ

Euzanthe tiberius, Smith.
wakefeldi, Ward.
Charaxes brutus, Gam.
castor, Gam.
saturnus, Butl.
pollux, Gam.
achaemenes, Feld.
azota, Hew.
lasti, Smith.
bohemani, Feld.
cithaeron, Feld.
violetta, Smith.
baumani, Rog.
blanda, Roths.
guderiana, Dew.
eitheocles, Gam.
ethalion, Bdv.
jahlusa, Trim.
candiope, Godt.
varanes, Gam.
fulvescens, Auriv.
lichas, Doubl.
zoolina, Westw.
Cymothoe theobene, Doubl.
aurivilli, Stand.
coranus, Smith.
Euptera pluto, Ward.
Euryphura achlys, Hopff.
Crenidomimas concordia, Hopff.
Diestogyna ribensis, Ward.
Euryphene chriemhilda, Stand.
senegalensis, H.S.
Euphrodra cleus, Drury.
neophron, Hopff.
zaddachi, Dew.
Hamanumida daedalus, F.
Aterica galene, Brown.
Catuna sikorana, Rogenh.

Pseudacraea boisduwali, Doubl.
dolomena, Hew.
conradi, Oberth.
rogersi, Trim.
fickel, Weym.
lucretia, Cram.
tarquini, Trim.
Neptis agatha, Stoll.
livingstonei, Suff.
continuata, Holl.
nina, Stand.
trigonophora, Butl.
goochi, Trim.
incongrua, Butl.
Cyrestis camillus, F.
Crenis rosa, Hew.
boisduwali, Wallg.
dubiosa, Strand.
Byblia ilithyia, Drury.
acheloia, Wallg.
Ergolis pagenstecheri, Suff.
Neptidopsis velleda, Male.
platyptera, R. and J.
Eurytela hiarbas, Drury.
dryope, Cram.
Hypolimnas misippus, L.
antevorta, Dist.
deceptor, Trim.
dubia, Pal.
Salamis temora, Feld.
parhassus, Drury.
anacardii, L.
amaniensis, Voss.
Catacroptera cloanthe, Cram.
Precis artaxia, Hew.
natalica, Feld.
elgiva, Hew.
taveta, Rog.
archesia, Cram.
tugela, Trim.
actia, Dist.
Ceryne, Boisd.
cuama, Hew.
antiloque, Feisth.
sesamus, Trim.
sophia, F.
oenone, L.
clelia, Cram.
orithya, L.
Pyrameis cardui, L.
Antanartia hippomene, Hb.
schaeneia, Trim.
Lachnoptera ayresi, Trim.
Atella columbina, Cram.
phalantha, Drury.
Argynnis hanningtoni, Elwes.
baumanni, Rebel.
Planema montana, Butl.
quadricolor, Rogenh.
adrasta, Weym.

Planema epitellus, Stand.
Acraea esebria, Hew.
lycoa, Godt.
johnstoni, Godm.
butleri, Auriv.
oreas, Sharpe.
servona, Godt.
quirinalis, Smith.
igola, Trim.
conradti, Oberth.
pentapolis, Ward.
encedon, L.
pharsalus, Ward.
cabira, Hopff.
uvus, Smith.
alicia, Sharpe.
bonasia, F.
acerata, Hew.
terpsichore, L.
pullula, Gruub.
goetzi, Thur.
excelsior, Sharpe.
natalica, Boisd.
caecilia, F.
oncaea, Hopff.
doubledayi, Guer.
aequatorialis, Neave.
caldarena, Hew.
pudorella, Auriv.
braesia, Godm.
stenobea, Wallg.
nohara, Boisd.
chaeribula, Oberth.
acrita, Hew.
anacreon, Trim.
petraea, Boisd.
perenna, Doubl.
areca, Mab.
zetes, L.
pseudolygia, Butl.
anemosa, Hew.
chilo, Godm.
baxteri, Sharpe.
insignis, Dist.
satis, Ward.
neobule, Doubl.
cerasa, Hew.
dammü, Voll.
rabbaias, Ward.
zonata, Hew.
Pardopsis punctatissima, Boisd.

ERYCINIDAE

Libythea laius, Trim.

LYCAENIDAE

Alaena interposita, Butl.

Alaena rollei, Suff.
Caiessa, Reb and Rog.
oberthuri, Auriv.
Sheffieldia neavei, H. Druce.
Pentila mombasae, Smith.
parapetreia, Reb.
peucetia, Hew.
Mimacraea paragara, Reb.
gelinia, Oberth.
Teriomima subpunctata, Kby.
delicatula, Kby.
aslauga, Trim.
Eresinoprides bichroma, Strand.
Lachnocnema bibulus, F.
durbani, Trim.
Deudorix diocles, Hew.
dariaves, Hew.
antolus, Hopff.
Myrina ficedula, Trim.
dermaptera, Wallg.
Hypolycaena philippus, F.
pachalica, Butl.
ceres, Hew.
caeculus, Hopff.
Stugeta bowkeri, Trim.
mimetica, Auriv.
Iolaus mermis, H. Druce.
silanus, Smith.
alienus, Trim.
aemulus, Trim.
pallens, Wallg.
mimosce, Trim.
nursei, Butl.
Aphnaeus hutchinsoni, Trim.
Drucei, Neave.
rez, Auriv.
Spindasis victoricae, Butl.
homeyeri, Dew.
ella, Hew.
aderna, Plötz.
Aziocerces harpax, F.
amanga, Westiv.
Leptomyrina lara, L.
Capys brunneus, Auriv.
Phasis conradsi, Auriv.
taikosama, Wallg.
Crudaria leroma, Wallg.
Lycaenesthes chirinda, B. Bak.
pauperula, Strand.
ligures, Hew.
definita, Butl.
rubrimaculata, Strand.
lemnos, Hew.
otacilia, Trim.
nigropunctata, B. Bak.
lasti, Smith.
princeps, Butl.
livida, Trim.
lunulata, Trim.
amarah, Guer.

Lycaenesthes larydas, Cram.
crawshayi, Butl.
Phlyaria phibonotanus, Auriv.
heritisa, Hew.
Uranothauma antinorii, Oberth.
lunifer, Reb.
nubifer, Trim.
Cacyreus lingeus, Cram.
palemon, Cram.
Castalius grammicus, Smith.
sybaris, Hopff.
melas, Trim.
gregorii, Butl.
margaritaceus, Sharpe.
Azanus natalensis, Trim.
jesous, Guer.
mirza, Plötz.
ubaldus, Cram.
Syntarucus plinius, F.
Nacaduba nichela, Wallg.
Lampides boeticus, L.
Cyclyrius noquasa, Trim.
aequatorialis, Sharpe.
juno, Butl.
Neochrysops peculiaris, Rog.
carsoni, Butl.
barkeri, Trim.
osiris, Hopff.
mahallakoaena, Wallg.
koaena, Strand.
Chilades trochilus, Freyer.
Cupidopsis cisius, Godt.
jobates, Hopff.
hippocrates, F.
Zizera gaska, Trim.
antanossa, Mab.
lysimon, Hbn.
lucida, Trim.
Heodes abboti, Holl.

PIERIDAE

Leptosia alcesta, Cram.
Herpaenia eriphia, Godt.
Mylothris citrina, Auriv.
agathina, Cram.
ruppelli, Koch.
yulei, Butl.
rubricosta, Mab.
sulphureotincta, Strand.
agala, Smith.
ruandana, Strand.
Appias lasti, Smith.
sabina, Feld.
epaphia, Cram.
Belenois raffrayi, Oberth.
gidica, Godt.
severina, Cram.
mesentina, Cram.

Belenois zochalia, Boisd.
calypso, Drury.
thysa, Hopff.
theora, Doubl.
Pinacopteryx astarte, Butl.
rubrobasalis, Lanz.
pigea, Boisd.
charina, Boisd.
gerda, Smith.
doxo, Godt.
liliana, Smith.
Synchlœ helice, L.
Teracolus chrysonome, Klug.
aurigineus, Butl.
ansorgei, Mohl.
vesta, Reiche.
protomedia, Klug.
celimene, Luc.
halimede, Klug.
eris, Klug.
erone, Angas.
ione, Godt.
bacchus, Butl.
regina, Trim.
helaera, Gerst.
puniceus, Butl.
eunoma, Hopff.
hildebrandti, Stand.
annae, Wallg.
eupompe, Klug.
achine, Cram.
antigone, Boisd.
evenina, Wallg.
evarne, Klug.
dissociatus, Butl.
auxo, Luc.
ducissa, Dogn.
Eronia cleodora, Hb.
leda, Boisd.
thalassina, Boisd.
argia, F.
usambara, Auriv.
buqueti, Boisd.
Catopsilia florella, F.
Terias senegalensis, Boisd.
floricola, Boisd.
desjardinsi, Boisd.
eximia, Thur.
brigitta, Cram.
Colias electo, L.

PAPILIONIDAE

Papilio rez, Oberth.
dardanus, Brown.
echerioides, Trim.
fülleborni, Karsch.
sjöstedti, Auriv.
jacksoni, Sharpe.

Papilio zoroastres, Druce.

nobilis, Rog.
pelodurus, Butl.
constantinus, Ward.
mackinnoni, Sharpe.
phorcas, Cram.
nireus, L.
thurani, Karsch.
bromius, Doubl.
demodocus, Esp.
menestheus, Drury.
vidleyanus, Wht.
pylades, F.
morania, Angas.
leonidas, F.
philonoe, Ward.
antheus, Cram.
policenes, Cram.
sienenna, Mab.
polistratus, Smith.
orthaon, Hew.
colonna, Ward.
kirbyi, Hew.

HESPERIIDAE

Rhopalocamptia anchises, Gerst.

piestratus, F.
forestan, Cram.
sejuncta, Mab.
Zophopetes dymephila, Trim.
Chondrolepis niveicornis, Plötz.
Artitropa erinnys, Trim.
Andronymus philander, Hopff.
Platylesches goetzei, Grunb.
robustus, Neave.
Paraleodes herilus, Hopff.
Padraona zeno, Trim.
Parnara auritincta, Butl.
borbonica, Boisd.
fatuella, Hopff.
ferruginea, Auriv.
alberti, Holl.

Parnara lugens, Hopff.

ursula, Holl.
detecta, Trim.
punctata, Auriv.
caesia, Gaede.
aequalis, Gaede.
malthias, F.
Gegenes occulta, Trim.
niso, L.
Kedestes rogersi, H. Druce.
callicles, Hew.
wallengreni, Trim.
Rhabdomantis galatia, Hew.
Ampittia parva, Auriv.
Heteropterus lepeletieri, Latr.
stellatus, Mab.
Cyclopides metis, L.
quadrisignatus, Butl.
decipiens, Butl.
carsoni, Butl.
Oxypterus biserialatus, Mab.
harona, Westw.
Acleros mackeni, Trim.
Gorygyra vosseleri, Grunb.
subfluvida, Holl.
Hesperia dromus, Plötz.
diomus, Hopff.
spio, L.
rehfousi, Oberth.
metaleuca, Oberth.
Carcharodus elma, Trim.
Abantis levubu, Wallg.
paradisea, Butl.
zambesiaca, Westw.
Tagiades fesus, F.
Calleagris jamesoni, Sharpe.
Sarangaea djaelaelae, Wallg.
lugens, Rog.
hollandi, Butl.
motozi, Wallg.
lucidella, Mab.
laelius, Mab.
eliminata, Holl.
princei, Karsch.

(i) FISHING

Trout
fishing.

Early in 1926 a private venture introduced trout into Tanganyika, and the ova both of the brown (*Salmo fario*) and the rainbow trout (*S. irridens*) were imported and successfully hatched out at Magamba, five miles beyond Lushoto in the Usambara Hills. Three consignments of ova were received and success in hatching increased with the experience gained. Rainbow trout, owing to their more rapid growth, appear to



**RAINBOW TROUT 2 LB. 6 OZ. CAUGHT IN THE MKUSSU
RIVER, USAMBARA**

give promise of very successful results and the slower growing brown trout may in time establish themselves as well.

Alevins of rainbow trout hatched in June, 1927, were kept in stew ponds and, later, were turned out into the stream, where after seven months they averaged $7\frac{1}{2}$ inches in length, while less than two years from the hatching of the ova fish of $4\frac{1}{2}$ lbs. were taken. Though most of the alevins were liberated over a small length of stream, the fish are now found in a stretch of water some six to seven miles long.

By the end of 1929 fish weighing one or two pounds were commonly caught, and excellent sport was obtained with the promise of more and heavier fish in the future. That rainbow trout have bred in the stream has been proved by the observation of alevin and considerable numbers of fry.

Now that it has been definitely established that trout will breed in the mountain streams of the Territory, the Government has voted a sum of £200 in order to open a hatchery and breeding station on the Mkussu River at Magamba, in the charge of the Conservator of Forests. From this hatchery it is proposed to distribute acclimatized ova to other parts of the Territory, as waters suitable for trout are known to exist in the highlands of Moshi, Arusha, Iringa and Tukuyu, and further search may reveal other suitable streams. An Angling Association at Usa, near Arusha, was formed in January, 1930, and proposes to import trout ova from Kenya by aeroplane to stock the Usa and Chai streams flowing from Mount Meru.

The Trout Protection Ordinance of 1929 was enacted to Licences. regulate trout fishing in Tanganyika. A licence to fish is required, for which the following fees are payable :

Visitor's Licences.		Resident's Licences.	
	Shs.		Shs.
Yearly	200	Yearly	25
Fortnightly	80	Fortnightly	10
Twenty-four hourly	25	Twenty-four hourly	3

The fees are set aside for the improvement of trout and trout streams.

Number of
trout
allowed.

Not more than five trout in a day or more than ten trout in a week may be killed, the minimum size below which a trout shall be returned to the water being twelve inches in length, measured from the tip of the nose to the centre of the tail. Only rod and line baited with fly may be used.

Close season.

There is a close season from the 15th of April to the end of September in each year.

Sea-fishing.

The coastal waters of the Territory teem with edible fish of every description, but fishing is only pursued by natives using more or less primitive methods. The catch is consumed not only by the coast natives, and in the coast towns by the non-native inhabitants, but also by the villages of the hinterland with which the fish are traded, after being smoked or sun-dried. Most of the coastal and deep-sea fishing is done from dug-out canoes carrying one or two fishermen or, from the larger "jahazi", or dhows, generally owned or financed by a small syndicate. Hooked lines, drag-nets, and casting nets are used, while weirs or palisades are built into the water to catch the fish which pass over them at high tide and get left as the sea recedes.

A fishery expert was sent out to German East Africa in 1914 to examine the fisheries and the possibility of their development, but his work was interrupted by the war and he devoted most of his time to the establishment of a factory to cure fish caught in Lake Tanganyika in order to provide food for the Protectorate Forces.

In 1928 the Government of Tanganyika, on the invitation of the Government of Kenya, expressed its willingness to contribute towards the services of an expert to examine the fisheries on the coast. The expert, on arrival at Mombasa, found that his requirements had not been anticipated by the Government of Kenya and accordingly he was restricted to making a preliminary survey in the cost of which the Tanganyika Government felt unable to participate. A more intensive study of the economic possibilities of the sea fisheries would, doubtless, repay investigation.

For purposes of sport the best deep-sea fishing is obtainable off the Island of Mafia, but good sport can be enjoyed at several places on the coast. The biggest fish are caught

by trolling from a motor boat, spoon or dead bait being used.

(j) CLIMBING

On Mounts Kilimanjaro and Meru alpine climbing can be enjoyed in the heart of the tropics, the eastern peak of Kilimanjaro offering rock work of the most difficult kind, while on Kibo, the summit of Kilimanjaro, rock work is combined with ice work. None of these mountain masses can be classed among the fast-disappearing category of virgin peaks, but they still offer unsolved problems such as a traverse of Kibo from west to east, an ascent over its southern glaciers, the conquest of the central cone with its ice-filled crater, or attempts on Mawenzi and Meru by routes as yet unscaled.

The time taken to climb Mount Kibo is about five or six days from Moshi or Marangu, which are the most convenient centres. The ascent by the ordinary route does not call for special mountaineering skill or experience, but as alpine conditions so near the equator can only be expected at a very high elevation, the first requirements of those who wish to tackle these snow-capped heights are good lungs and a perfectly sound heart. A number of people are attacked by mountain sickness on reaching an elevation of 12,000 feet or over. Climbers should have a complete alpine outfit, supplemented by a sleeping-bag and by a small, light, and, if possible, wind-proof mountain tent. Suitable clothing, such as boots, sweaters, overcoats and blankets, must be taken for the limited number of porters who will be required above 14,000 feet.

An East African Mountain Club was formed towards the end of 1929 with headquarters at Marangu, near Moshi, the subscription being Shs.10 per annum. Members of the Club wishing to climb Kilimanjaro can obtain reduced rates for the use of the Bismarck and Peters huts. Guides and porters are found for members wishing to make the ascent. It is the hope of the Club to erect a small hut at the Hans Meyer caves, situated at an altitude of 15,600 feet, from which the last attack on the summit is made. Those who desire to climb Kilimanjaro are advised to put themselves in touch with the

President or Honorary Secretary of the Club at Marangu, Moshi.

(k) DINOSAUR REMAINS

During the years 1909 to 1912 three expeditions were sent by the Berlin Museum to the site of the large fossil reptiles at Tendaguru, some four days' march north-west of Lindi. As the result, a number of bones were obtained of dinosaurs and, in addition, of other reptiles, birds and mammals. The material was in excellent condition and much of it, some as mounted skeletons, is now on exhibition in the Berlin Museum. Altogether as much as £9,000 was spent on the work in East Africa and Berlin. The excavations were continued until the outbreak of war in August, 1914, when the work was abandoned, and many specimens remained in store at Lindi.

After the war the Trustees of the British Museum considered the dispatch of an expedition to investigate the deposits of these cretaceous bones, but financial difficulties intervened and it was not until early in 1924 that an expedition could set out. Excavations have continued ever since, in successive years, and much valuable material has been obtained which should permit a reconstruction, even though partial, of the dinosaur. The bones are concentrated in what is, in reality, a closely packed cemetery. It is thought that the reptiles were swept down from the hinterland by water-courses of the regular or intermittent types and that the breaching of a sand-bar in time of flood occasionally allowed a body to be entombed on the margin of the seashore itself. The course of the ancient river beside which these fossil reptiles probably lived is considered to be in a westerly direction from the present diggings and towards the northern end of Lake Nyasa. Bones of the flying reptiles (Pterosauria) have been found, and in the same pit the large teeth of a carnivorous dinosaur and marine molluscs, an association which may provide the means of ascertaining the exact age of the reptiles lying with them. The remains are extracted by digging a number of ditches, close to each other, in various directions and to the depth at which bones are found, or until it appears that the ground is barren. From the exposure

of bones in the ditches the levels at which they lie are worked out, the overlying soil being then removed. The bones are cleaned as much as possible on the spot and are then plastered to strengthen them for their journey to the British Museum, where they are examined and pieced together, and where palæontological investigations are made.

The work was financed during 1929 largely by the Government of Tanganyika, which has voted a further sum of £1,000 in order to permit the continuation of operations during 1930. The area is closed to all excavations except under permit, in accordance with the provisions of the Preservation of Archaeological Objects Ordinance, 1929.

CHAPTER XIV

MISCELLANEOUS INFORMATION

Cost of living. THE cost of living depends largely on the part of the country in which the individual resides, as well as upon his occupation and his personal tastes.

The household budget may be divided into: (i.) wages; (ii.) local produce; (iii.) imported goods; (iv.) miscellaneous expenses.

(i.) Good servants, as a rule, command a high wage wherever they may be employed in the Territory, and they are not easy to find. The wage bill, therefore, figures largely in the budget of an average establishment, particularly as it is a custom for each servant to perform the duties of his office and none other. This system is now generally accepted throughout most of East Africa with the result that the domestic staff of a normal household consists of a cook, a kitchen-boy, head-boy and assistant, and a "dhobi" or washerman. A fair plain cook is unobtainable for less than Shs.40 to Shs.50 a month, while for a good cook a wage of Shs.60 to Shs.80 must be paid. There are a few Goan cooks in places like Dar es Salaam and Tanga, mostly employed by hotels, who receive about Shs.150 to Shs.200 a month. For an experienced house-boy a monthly wage of Shs.50 to Shs.70 must be paid in the towns. Kitchen-boys receive from Shs.8 to Shs.20 a month. In up-country districts house-boys' wages are generally a good deal lower, particularly if local natives are employed, as they would be in most cases, instead of servants imported from the coast. Native domestic servants make their own arrangements for feeding and do not as a rule receive any allowance on this account from their employers.

(ii.) Local produce is very cheap in the country and a farmer would be self-supporting in this respect to a large extent. In the towns, meat and vegetables are less expensive than at home, but articles such as butter, bacon and cheese are far from cheap. Meat costs on an average about forty to fifty cents a pound for beef and double that amount for mutton, but the price is reflected in the quality, which leaves something to be desired. Most European vegetables are sold very reasonably and Dar es Salaam is particularly fortunate in receiving supplies of peas, beans, leeks, celery, beetroot, cucumber, tomatoes, cabbages, cauliflower, onions, carrots, turnips, etc., from the Morogoro district. Bacon is expensive and the bulk of supplies have in the past been imported, despite a heavy tariff designed to protect the Kenya bacon industry. A local factory at Iringa is now producing, and its products should oust the imported material. Most of the butter, except in the farming areas, is imported from Kenya and is sold on the coast at Shs.2/75 a pound, but it goes without saying that in a farming centre butter would be made and sold locally. Milk costs about fifty cents a bottle in the large towns but is sold for a few cents in the country. Native fruits such as bananas, pawpaws, oranges, limes and mangoes are plentiful in most places and cheap, while Dar es Salaam and Tanga look to the highlands above them for European fruit such as peaches and plums. Apples and pears imported from South Africa and elsewhere are frequently obtainable.

(iii.) Imported foodstuffs are expensive owing to freight and import duties, to which must be added the cost of local transport on stores consumed by those who live up-country. Shops in Dar es Salaam, Tanga and all the large centres stock most varieties of imported goods.

(iv.) Miscellaneous expenses will include club subscriptions, a heavy item in a place like Dar es Salaam, electricity, water rates, which average about £8 a year in townships with pipe-borne supplies, and clothes. It is the town dweller who finds these items fall heaviest on his purse, as the country dwellers either escape or can economize in them.

It is impossible to frame any general estimate of the cost of running a household in Tanganyika, which, as stated above,

depends on several variable factors, the most important of which is the individual income. It may be said, though, that in the large towns the expenditure of a married household without children and living economically, including servants, light, water, food and drink, will not be much less than £25 to £30 a month. Single men who elect to mess jointly or at a club or hotel should make ends meet on about £15 to £20 a month in the larger towns. It must be emphasized that the above figures do not include rents in townships, the running of a motor car, club subscriptions, medical expenses, or living beyond the most modest standard of comfort. In the Northern and Iringa Provinces, farmers' associations have estimated that £15 for a married couple and £10 a month for a bachelor will cover the cost of living, provided that they use local resources to the full and do not indulge in imported luxuries.

Rents.

Houses are difficult to obtain in the large townships, while rents are high and are the subject of general complaint. For a small flat or house in Dar es Salaam with three rooms and a verandah, kitchen and servants' quarters, etc., a rent of £150 a year is asked and obtained, while for a larger quarter containing four to six rooms the rent may well be as much as £250 to £350 a year.

The Government has an extensive building programme in hand for Dar es Salaam, on the completion of which the housing situation should be eased for official and non-official alike, as at present a number of privately owned quarters are rented by Government for the accommodation of officials.

Agricultural wages.

The wages for unskilled labour vary considerably in the different districts, as will be seen from the following table showing the approximate rates of wages current in the principal farming and planting districts in 1929:

Province and District.	Monthly Wage.
IRINGA	
Iringa District	Shs. 8 to 12
Mbeya District	7.50
Njombe District	6 to 9
Rungwe District	6 „ 8

Province and District.	Monthly Wage.
NORTHERN	
Arusha District	Shs. 16 to 30
Moshi District	16 „ 18
Mbulu District	16 „ 18
TANGA	
Handeni District	18 to 24
Pangani District	18 „ 24
Tanga District	20 „ 30
Usambara District	15 „ 25
EASTERN	
Bagamoyo	18 to 24
Dar es Salaam	20 „ 30
Kilosa	16 „ 18
Morogoro	18 „ 20
Rufiji	18
LINDI	
Kilwa	15 to 22
Lindi	16 „ 25
Mikindani	12 „ 26

In most cases 'posho', or daily rations, is given in addition to wages. There is, generally speaking, a sufficiency of labour, though seasonal shortages due to a sudden demand or to the harvest occur in certain areas.

Artisans and skilled labour command salaries according to their qualifications, varying from Shs.30 or Shs.40 a month to Shs.150 or Shs.200 for really competent carpenters and motor drivers.

There are cinematograph theatres in Dar es Salaam, Moshi, Mwanza, Tabora and Tanga. The Empire Cinematograph theatre in Dar es Salaam, which was erected and opened in 1930, is built on modern lines and is capable of holding about five hundred people.

Cinematograph exhibitions and photography are regulated by the Cinematograph Ordinance of 1930. Licensing Boards have been appointed in the townships where exhibitions are held for the licensing of theatres and for the censorship of the films and posters to be exhibited.

The following are the principal clubs founded for social or Clubs.

recreative purposes in the Territory and open to European membership. There are, in addition, a number of non-European clubs which have been formed for social purposes and recreation.

Dar es
Salaam.

The Dar es Salaam Club, the principal social club of Tanganyika, occupies a fine site on the Azania front. It has a membership, including up-country members, of about nine hundred. There are dining and reading rooms, a library and card rooms, and an extensive lounge and verandah. A number of bedrooms are available for the use of members. The entrance fee is Shs.200 and the monthly subscription is Shs.20.

The Dar es Salaam Gymkhana Club is housed in a commodious building which is situated in a large open space facing the Indian Ocean. There are twelve tennis courts and playing grounds for cricket, football and hockey. There is a nine-hole golf course. The Club has a membership of one thousand, the entrance fee being Shs.100 and the monthly subscription Shs.15.

The Railway Institute is a social club situated near the railway station and caters primarily for officers of the railway, though non-official members are admitted. It has a membership of one hundred. There is no entrance fee, but an annual subscription of Shs.48 is payable by official members, and of Shs.60 by non-official members.

Arusha.

The Arusha Sports Club at Arusha and Usa provides facilities for cricket, and for football under both rules. There are about forty members. An entrance fee of Shs.100 and an annual subscription of Shs.20 are payable.

The Arusha Tennis and Golf Club has a membership of twenty. There are two tennis courts and a golf course has recently been laid out on the aerodrome. The entrance fee is Shs.20, with a monthly subscription of Shs.10, a reduction being made if only tennis or golf is played.

Bukoba.

The Bukoba Gymkhana Club faces Lake Nyanza and has facilities for tennis, golf and other games. There is a membership of about fifty, the entrance fee being Shs.50 and the annual subscription Shs.120.

Dodoma.

The Dodoma Recreation Club, with a membership of forty, has tennis courts. There is a poor nine-hole golf course on

common ground north of the railway. There is no entrance fee, but a monthly subscription of Shs.10 is payable.

The Iringa Club is the social club of the Iringa district. Iringa. There are facilities for golf on a nine-hole course, and tennis. The club is housed in a well-built stone building which includes a library. The membership is about one hundred, the entrance fee being Shs.50 and the annual subscription Shs.60.

A proprietary country club is being formed at Rungemba, about forty miles south of Iringa on the Iringa-Malangali road. It is proposed to construct a nine-hole golf course, tennis courts, a polo ground and a private aerodrome.

The Kigoma Gymkhana Club has a membership of about Kigoma. forty. The annual subscription is Shs.120, with an entrance fee of Shs.40.

A small club at Kilosa caters for the recreative needs of the Kilosa. permanent residents, numbering about fifteen, in providing tennis and football. A subscription of Shs.10 is paid monthly.

The Lindi Sports Club has a tennis court and a seven-hole Lindi. golf course, and runs a small library for the European residents. There are twenty members, who pay an entrance fee of Shs.25 and a monthly subscription of Shs.10.

The Magamba Country Club is a proprietary club for Lushoto. residential, social and sporting purposes situated at an altitude of 5,400 feet about five miles above Lushoto. There is a tennis court and an excellent golf course, while trout fishing is obtainable in the mountain streams. The club-house is well built, and there are a number of bedrooms in which members can stay, the inclusive charge for board and lodging being from Shs.12 to Shs.13 a day, a reduction being made for a monthly stay. The entrance fee is Shs.20, with an annual subscription of Shs.10, half these amounts being charged for wives of members.

There is a small Gymkhana Club at which residents can Mahenge. play tennis and golf. The annual subscription is Shs.60.

The Morogoro Gymkhana Club is a social and sports club Morogoro. with eighty members. A nine-hole golf course is attached to the club. The entrance fee is Shs.40, with a monthly subscription of Shs.5 for resident and playing members.

The Moshi Sports Club provides facilities for all games, and Moshi.

has two tennis courts and football, cricket and hockey grounds. There is a membership of sixty. The entrance fee is Shs.25, with a monthly subscription of Shs.10. A golf course is being laid out on the aerodrome.

The Moshi Country Club is situated about six miles west of Moshi on the Arusha road. It has two tennis courts and a golf course which promises to be excellent, as well as bathing. There are sixty members and the subscription is Shs.10 per annum.

Mwanza. The Mwanza Gymkhana Club has three tennis courts and a sporting nine-hole golf course situated in really beautiful surroundings. The club-house contains a reading room. An entrance fee of Shs.30 and a monthly subscription of Shs.15 are payable.

Tabora. The Tabora Club is a sports and social club, with a nine-hole golf course of its own. The membership is two hundred, the entrance fee being Shs.40, with an annual subscription of Shs.180.

The Rufita Golf Club has a small membership, with an entrance fee of Shs.10 and an annual subscription of Shs.96.

Tanga. The Tanga Club is a social club with a membership of about sixty. The entrance fee for residents is Shs.100, with a subscription of Shs.240 a year.

The Tanga Gymkhana Club was founded for purposes of recreation, and has tennis courts and an excellent nine-hole golf course. There are about seventy members, who pay an entrance fee of Shs.50 and an annual subscription of Shs.147 if single, or Shs.210 if married.

The Ras Kazone Sports Club is a recreation club patronized by the German community, and has a membership of about one hundred and fifteen. The entrance fee is Shs.10, with an annual subscription for residents of Shs.48.

Consuls of foreign countries. The following are the Consular officers of foreign countries exercising jurisdiction in Tanganyika:

BELGIUM . Monsieur A. van Biervliet, Consul-General, Nairobi.

Monsieur A. de Beys, Consul, Dar es Salaam.

Monsieur Op-de-Beek, Acting Vice-Consul, Kigoma.

- FRANCE. . Monsieur R. M. Goubin, Acting Consul, Zanzibar.
Mr. L. H. Power, Consular Agent, Dar es Salaam.
- GERMANY . Dr. Herman Speiser, Consul, Nairobi.
- GREECE. . Mr. N. F. Howe-Browne, Consul, Dar es Salaam.
- ITALY . . Count Vittorio Zappi, Consul-General, Nairobi.
- NETHERLANDS Mynheer A. M. L. Winkelman, Consul, Mombasa.
Mr. S. L. Freeberne, Vice-Consul, Dar es Salaam.
- NORWAY . Mr. Sverre Haug, Consul, Dar es Salaam.
- PORTUGAL . Senhor Manoel A. de Carvalho, Consul-General,
Nairobi.
Senhor Placido de Souza, Vice-Consul, Dar es
Salaam.
Senhor Dr. Arthur Gonçalves, Acting Vice-
Consul, Tanga.
- SWITZERLAND Mr. Hugo Tanner, Consul, Tanga.
- UNITED STATES
OF AMERICA Mr. Oscar Thomasson, Acting Consul, Nairobi.

The following are the Masonic bodies in the Territory:

Free-
masonry.

CRAFT MASONRY

- Lodges holding Charter from the United Grand Lodge of England.
- Haven of Peace, No. 4385, Dar es Salaam. Consecrated April, 1922.
Meetings: First Friday monthly, except December to
February. Installation, April.
- Tanga Fraternity, No. 4380, Tanga. Consecrated September, 1926.
Meetings: Third Tuesday monthly. Installation, October.
- Dar es Salaam, No. 5095, Dar es Salaam. Consecrated February,
1929. Meetings: Third Monday, monthly. Installation, March.
- Kilimanjaro, No. 5111, Moshi. Consecrated August, 1929. Meetings:
Second Tuesday, monthly. Installation, September.

Lodge holding Charter from the Grand Lodge of Scotland.

- St. Andrew, No. 1360, Dar es Salaam. Consecrated March, 1928.
Meetings: First Monday, monthly. Installation, 27th Decem-
ber.

ROYAL ARCH MASONRY

Chapter holding Charter from the Supreme Grand
Chapter of England.

- Haven of Peace, attached to Lodge 4385, Dar es Salaam. Con-
secrated June, 1928. Meetings: Fourth Friday, February,
April, June, August, October. Installation, June.

MARK MASONRY

Lodge holding Charter from the Grand Lodge of Mark Master Masons of England and Wales and the Dominions, Colonies and Dependencies of the British Cram.

Rock of Hope, No. 816, Dar es Salaam. Consecrated June, 1925.

Meetings: Third Friday, January, March, May, July, September, November. Installation, July.

The foundation stone of the Masonic Temple in Dar es Salaam was laid by the Governor, Sir Donald Cameron, K.C.M.G., K.B.E., in December, 1925, and the Temple was dedicated by a deputation from the Grand Lodge headed by Very Worshipful Brother Sir Colville Smith, C.V.O., Grand Secretary, in September, 1926.

Holidays. The public offices are closed on the following days in the year:

New Year's Day.

Good Friday.

Easter Monday.

Empire Day.

The anniversary of the birthday of His Majesty.

The first Monday in August.

The anniversary of the Armistice.

Christmas Day.

Boxing Day.

In addition, Mohammedan employees of Government are granted the following holidays:

Ramadhan.

Id-el-Fitr.

Id-el-Haj.

Moharam.

Maulidi.

Hindus, Sikhs and Sinhalese Buddhists in the employment of the Government are granted leave on the principal holidays or religious festivals of their respective creeds.

Hotels. With a few exceptions the hotels do not reach the high standard expected in European countries, but the majority of them are clean and very fair accommodation can be relied upon.

The following are the principal hotels:

Place.	Name of Hotel.	No. of Bed-rooms.	Tariff per Person.		Nationality of Management and Remarks.
			Daily. Shs.	Weekly or Monthly. Shs.	
Dar es Salaam.	Carlton .	12	12/50	80 weekly	British
	Central .	14	10	54 weekly	Greek
	New Africa	45	18 to 20	126 to 140 weekly; 450 monthly	Greek
	New Burger	11	12	70 weekly	Syrian and German
	New Palace	42	12 to 15	75 weekly	Italian
Arusha.	Railway .	8	12	70 weekly	Syrian
	Sailer .	14	10 to 12	70 weekly	German
	New Arusha	25	18	Discount of 10 per cent allowed for a weekly stay; 450 monthly	British. Modern equipment
Bukoba.	Lake .	5	18	..	German
Dodoma.	Dodoma .	11	12	..	Greek
Iringa.	Iringa .	25	12	75 weekly	British
	Meyer's .	16	12	75 weekly	German
	Rungemba .	..	12	..	British. Forty miles south of Iringa on the Iringa-Malangali road
Kigoma.	Kigoma .	8	14	..	Greek
Kilosa.	Kilosa .	6	12	..	Greek
Kondoa-Irangi.	Kondoa .	3	10	..	German
Lushoto.	Lushoto .	10	12	70 weekly; 270 monthly	German
Morogoro.	Savoy .	15	10	70 weekly	Greek
Moshi.	Kilimanjaro	11	16	Weekly or monthly by arrangement	British
					Greek
	Mawenzi .	10	12	do.	British
	Railway .	12	10	do.	Greek
	Kibo, Marangu	10	18	do.	German. The hotel is twenty-five miles from Moshi and is the centre of the Kilimanjaro Climbing Club
Mwanza.	Africa .	9	16	14 per day weekly; 10 per day monthly	Greek
Tabora.	Railway .	14	12	70 weekly	Greek
Tanga.	Africa .	9	12	70 weekly	German
	Park .	8	10	180 monthly	Greek
	Tanga .	20	18	100 weekly	German

Immigration
regulations.

The immigration law of the Territory is the Immigration Ordinance (Chapter 30 of the Laws).

All non-native immigrants are required to be in possession of a passport furnished with a photograph or some other document establishing the holder's identity and nationality, except members of His Majesty's Forces, Government officials, consular representatives and persons born or domiciled in the Territory, who are admitted into the Territory without formality. The passport of a national of a foreign country should bear a British Consular visa. The various classes of prohibited immigrants are clearly defined in Section 5 of the Ordinance, the most common cause of prohibition being a destitute condition in which the intending immigrant is, or is likely to become, incapable of supporting himself or his dependents.

Any immigrant who is unable to satisfy the Immigration Officer as to his financial position must be prepared, if called upon, to give security in cash or by bond for a sum sufficient to cover the cost of repatriation to the country of domicile. This security is refunded when the immigrant is finally admitted to residence. Where it is decided that an immigrant is not a prohibited immigrant his passport is endorsed "Good for Tanganyika", and he is admitted to residence without further formality. Should an alien African servant, brought into the Territory, become destitute within two years from his arrival he is deemed to be a prohibited immigrant, and any expenses incurred by the Government in connexion with his maintenance, medical treatment or deportation may be recovered from the person responsible for his entry.

Insurance
companies.

The following insurance companies have agencies in the Territory:

[TABLES

Company.	Town.	Agent.
The African Guarantee and Indemnity Association The Alliance Assurance Company, Limited	Dar es Salaam	Messrs. Howe-Browne & Webster.
	Bukoba	Mr. G. C. Ishmael.
	Aruaha	The Tanganyika Stores. Messrs. Smith, Mackenzie & Company. Messrs. G. Mavricos & Company. Mr. M. Kalogeris. Messrs. Smith, Mackenzie & Company. The Kampala General Agency, Limited. Messrs. Smith, Mackenzie & Company. Messrs. Smith, Mackenzie & Company.
	Dar es Salaam	
The Atlas Assurance Company, Limited	Kigoma	
	Kilosa	
	Lindi	Messrs. Kassam & Company. Mr. R. Maine.
	Mwanza	
The Autocar Fire and Accident Insurance Company, Limited	Tanga	
	Lindi	
The British Trading Insurance Company	Mwanza	Messrs. Gill & Johnson. Mr. C. J. Griffith. Messrs. Thiel & Company. Mr. W. M. Lampard. The Tanganyika General Agency. Messrs. M. Dawoodbhoy & Sons. Messrs. Henry Portlock & Company. Messrs. Karimjee Jivanjee & Company. Messrs. Karimjee Jivanjee & Company. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The British East Africa Corporation, Limited. The British East Africa Corporation, Limited. The British East Africa Corporation, Limited. Messrs. Smith, Mackenzie & Company. Mr. H. R. Ruggles-Brise.
	Morogoro	
	Dar es Salaam	
	Moshi	
The Car and General Insurance Company	Tanga	
	Usa	Messrs. M. Dawoodbhoy & Sons. Messrs. Henry Portlock & Company. Messrs. Karimjee Jivanjee & Company. Messrs. Karimjee Jivanjee & Company. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The British East Africa Corporation, Limited. The British East Africa Corporation, Limited. The British East Africa Corporation, Limited. Messrs. Smith, Mackenzie & Company. Mr. H. R. Ruggles-Brise.
	Bukoba	
	Tabora	
The Commercial Union Assurance Company, Limited	Tanga	
	Dar es Salaam	Messrs. Karimjee Jivanjee & Company. Messrs. Karimjee Jivanjee & Company. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The British East Africa Corporation, Limited. The British East Africa Corporation, Limited. The British East Africa Corporation, Limited. Messrs. Smith, Mackenzie & Company. Mr. H. R. Ruggles-Brise.
	Tanga	
	Bukoba	
	Dar es Salaam	
The Eagle, Star and British Dominions Insurance Company, Limited	Mwanza	
	Tanga	
	Bukoba	
	Dar es Salaam	
The Gresham Fire and Accident Assurance Company, Limited	Mwanza	Messrs. Karimjee Jivanjee & Company. Messrs. Karimjee Jivanjee & Company. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The British East Africa Corporation, Limited. The British East Africa Corporation, Limited. The British East Africa Corporation, Limited. Messrs. Smith, Mackenzie & Company. Mr. H. R. Ruggles-Brise.
	Tanga	
	Bukoba	
	Dar es Salaam	
The Guardian Assurance Company, Limited	Tabora	
	Lindi	Messrs. Karimjee Jivanjee & Company. Messrs. Karimjee Jivanjee & Company. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The African Mercantile Company, Limited. The British East Africa Corporation, Limited. The British East Africa Corporation, Limited. The British East Africa Corporation, Limited. Messrs. Smith, Mackenzie & Company. Mr. H. R. Ruggles-Brise.
	Morogoro	
	Lindi	
	Morogoro	
The Guildhall Insurance Company, Limited	Morogoro	
	Lindi	
	Morogoro	
	Morogoro	
The Licences and General Insurance Company, Limited	Morogoro	
	Lindi	
	Morogoro	
	Morogoro	

Company.	Town.	Agent.
The Liverpool and London and Globe Insurance Company, Limited	Dar es Salaam	The Tanganyika Cotton Company, Limited.
Lloyds	{ Mwanza	The British East Africa Corporation, Limited.
	{ Tanga	Messrs. Smith, Mackenzie & Company.
The London Assurance Company	Dar es Salaam	The Old East Africa Trading Company.
The London and Scottish Assurance Company, Limited	{ Dar es Salaam	The East African Development and Trading Company, Limited.
	{ Tabora	Messrs. Stewart's Stores.
The Marine and General Mutual Life Assurance Society	Lindi	Messrs. Smith, Mackenzie & Company.
The Marine Insurance Company, Limited	Lindi	Messrs. Smith, Mackenzie & Company.
The Merchants Marine Insurance Company, Limited	Lindi	Messrs. Smith, Mackenzie & Company.
The Motor Union Insurance Company, Limited	{ Arusha	Messrs. Watt & Company.
	{ Tanga	The British East Africa Corporation, Limited.
The National Mutual Life Association of Australasia, Limited	{ Arusha	Mr. H. S. Cuthbert.
	{ Dar es Salaam	Mr. Kettles Roy.
The North British and Mercantile Insurance Company, Limited . .	{ Dar es Salaam	The African Mercantile Company, Limited.
	{ Tanga	The African Mercantile Company, Limited.
	{ Arusha	Messrs. G. Horn & Company.
The Northern Insurance Company	{ Tanga	The Twentech Overseas Trading Company.
	{ Tabora	Mr. C. P. Amin.
The Norwich Union Mutual Life Insurance Society	{ Arusha	Messrs. Fowlds & West-cob.
	{ Dar es Salaam	Messrs. Samuel Baker (London and Africa), Limited.
The Ocean Accident and Guarantee Corporation, Limited	{ Mwanza	Messrs. Kassam & Company.
	{ Dar es Salaam	Messrs. Suleman Daya & Sons.
The Oriental Insurance Company, Limited	{ Arusha	Mr. H. S. Cuthbert.
	{ Dar es Salaam	Messrs. L. Besson.
The Royal Exchange Assurance Company	{ Iringa	Mr. J. S. Todd.
	{ Tabora	Count Serra.
	{ Tanga	Mr. C. J. Griffiths.
The Royal Insurance Company, Limited	{ Dar es Salaam	Messrs. Lehmanns' (Africa), Limited.
	{ Tanga	Messrs. Taibali, Essaji, Sackak & Company.
The South British Insurance Company, Limited	{ Lindi	Messrs. Mathurda Kalidas.

Company.	Town.	Agent.
The Sun Insurance Company, Limited	Dar es Salaam	Messrs. Gibson & Company, Limited.
	Mwanza	Messrs. Allibhai Lalji & Sons, Limited.
	Arusha	Messrs. Fowlds & West-cob.
The Union Insurance Society of Canton, Limited	Dar es Salaam	Messrs. Howe-Browne & Webster.
	Tanga	The African Mercantile Company, Limited.

The following newspapers are published in Tanganyika: Newspapers.

Name of Publication.	Period of Publication.	Average Circulation.	Published Price and Subscription Rate.	Remarks.
<i>Gazette of the Tanganyika Territory</i>	Weekly	1,060	50 cents per copy Shs.13 per half-year Shs.24 per annum	Official publication printed by the Government Printer, Dar es Salaam.
<i>Tanganyika Standard</i>	Daily	..	20 cents per copy Shs.40 per annum	..
	Weekly	..	50 cents per copy Shs.20 per annum	
<i>Tanganyika Advertiser</i>	Weekly	1,000	50 cents per copy Shs.25 per annum	Printed and published in Kenya for circulation in Tanganyika.
<i>Tanganyika Herald</i> .	Weekly	..	50 cents per copy Shs.18 per annum	Printed in English and Guzerati.
<i>Tanganyika Opinion</i> .	Daily	300	10 cents per copy Shs.30 per annum	Printed in English and Guzerati.
	Weekly	1,350	50 cents per copy Shs.22 per annum	
<i>Mambo Leo</i> . . .	Monthly	9,000	10 cents per copy Shs.2/50 per annum	Published by Government as a native newspaper in Swahili.

With the exception of the *Tanganyika Advertiser*, all the above newspapers are printed and have their offices in Dar es Salaam.

Under the Newspaper Ordinance (Chapter 99 of the Laws), any person printing or publishing a newspaper, other than monthly publications, must make an affidavit giving the title of the paper, the place of printing, and the names and places of residence of the proprietor, printer and publisher; alternatively the publisher may be required to give a bond to the Government.

The following newspapers published in England deal with subjects affecting East Africa:

The African World, published weekly at 801 Salisbury House, London Wall, London, E.C.; annual subscription in the United Kingdom, £1 : 10s.; abroad, £2, post free.

East Africa, published weekly at 91 Great Titchfield Street, London, W.1; annual subscription, £1 : 10s., post free.

Passports. All persons leaving the Territory are advised to be in possession of valid passports.

The charge for a passport is Shs.7/50, and forms of application for a passport can be obtained at all administrative offices. The application form, duly filled in, should be sent to the Secretariat, Dar es Salaam, accompanied by the fee.

Passports are granted to:

- (1) Natural-born British subjects;
- (2) The wives and widows of such persons; and
- (3) Persons naturalized in the United Kingdom, in the British Dominions or Colonies, or in India.

A married woman is deemed to be a subject of the state in which her husband is for the time being a subject.

Passports are granted:

- (1) In the case of natural-born subjects and persons naturalized in the United Kingdom, upon the production of the prescribed declaration verified by a declaration made by a member or official of any banking firm established in the Tanganyika Territory or by any magistrate, Justice of Peace, Minister of Religion, barrister-at-law, physician, surgeon, solicitor, notary public, etc., resident in Tanganyika who is himself a British subject, or in the case of persons naturalized in the United Kingdom, upon production of a recommendation from the Foreign Office. The applicant's Certificate of Birth and other evidence may also be required. Applicants serving in His Majesty's Forces may have their declarations verified by their Commanding Officer.
- (2) In the case of children under the age of sixteen years requiring a separate passport, upon production of a declaration made by the child's parent or guardian.

- (3) In the case of persons naturalized in any of the British Self-Governing Dominions, upon production of a recommendation from the Government of the Dominion concerned or from its High Commissioner or Agent-General in London. Persons naturalized or ordinarily resident in any of the Crown Colonies may be required to obtain a Letter of Recommendation from the Colonial Office.

If the applicant for a passport is a British subject by naturalization, the Certificate of Naturalization must be attached to the declaration or Letter of Recommendation.

British passports are only available for travel to the countries named thereon, but may be considered for additional countries; but the possession of a passport so endorsed does not exempt the holder from compliance with any immigration regulations in force in British or foreign countries or from the necessity of obtaining a visa where required.

Passports endorsed as valid for the British Empire are also available for travelling to territory under British protection or mandate, not, however, including Palestine or Mesopotamia, for which countries the passport must be specially endorsed.

British passports are available for five years from the date of issue, unless otherwise stated. On the expiration of their period of validity they may be renewed for further consecutive periods of one to five years. In no circumstances are they available beyond ten years from the date of issue. Thereafter, or if at any time the passport contains no further space for visas, application must be made for the issue of a new passport.

Applications for renewals must be made to the Secretariat on the prescribed form which can be obtained at any administrative office, the fee for renewal being Sh.1 for each year for which the passport is renewed.

Letters of Recommendation are issued to foreign nationals in Tanganyika for whom no consul is resident in the Territory. Applications must be submitted on the prescribed form, which can be obtained from all administrative offices, to the Secretariat, Dar es Salaam, accompanied by a fee of Shs.8.

Public
bodies.
Mercantile
and planting
associations.

The following local bodies have been formed for the promotion of mercantile and planting interests:

Association.	Total Membership (approximate).	Address.
Arusha Chamber of Commerce and Agriculture	22	Arusha, Northern Province.
Arusha Coffee Planters Association	60	Arusha, Northern Province.
Bukoba Chamber of Commerce	..	Bukoba.
Congress of Associations .	Membership is not individual but is composed of representatives of public bodies with mercantile, planting or political objects	P.O. Box 553, Dar es Salaam.
Dabaga Farmers Association	..	Dabaga, Iringa Province.
Dar es Salaam Chamber of Commerce	45	P.O. Box 41, Dar es Salaam.
Iringa Farmers Association	..	Iringa.
Kilimanjaro Native Planters Association	11,750	Moshi, Northern Province.
Kilimanjaro Planters Association	100	Moshi, Northern Province.
Lindi Province Planters Association	..	Lindi.
Lupembe Farmers Association	..	Iringa Province.
Manyoni Farmers Association	..	Manyoni, Central Province.
Mbosi Settlers Association	..	Mbeya, Iringa Province.
Meru Agricultural Society	42	Arusha, Northern Province.
Moshi Chamber of Commerce	21	Moshi, Northern Province.
Mufindi Farmers Association	..	Mufindi, Iringa Province.
Mwanza Chamber of Commerce	32	Mwanza.
Mwanza European Chamber of Commerce	..	Mwanza.
Rungwe Settlers Association	20	Rungwe, Iringa Province.
Tanga Chamber of Commerce	23	Tanga.
Tanganyika Gineries Association	8	P.O. Box 163, Dar es Salaam.
Tanganyika Planters Association (Central area)	38	P.O. Box 54, Dar es Salaam.
Tanganyika Planters Association (Tanga area)	..	Tanga.
Usa Planters Association .	35	Usa, Northern Province.
Usambara Planters Association	26	Mombo, Tanga Province.

The African Civil Service Association has a membership of about 200 composed, mainly, of the educated African employees of Government on the coast. The objects of the Association are to safeguard the interests of African civil servants and to help members and their families who may be in need of relief or assistance. The headquarters of the Association are in Dar es Salaam and it has a branch at Tanga.

Political,
social and
other bodies.

The (Tanganyika) Asian Civil Service Association (address, P.O. Box 67, Dar es Salaam) was formed in 1921, under the style of the Tanganyika Government Clerical Association, to safeguard the interests of the Asiatic staff. It has a membership of 500.

The Caledonian Society was founded in 1923 with a membership of 23, which has since grown to 88. The objects of the Society are to foster social intercourse and brotherhood among Scots resident in the Territory, to celebrate Scottish anniversaries and to give a helping hand to deserving Scotsmen who may be in distress. There is an entrance fee of Shs.10 and an annual subscription of the same amount. The address of the Honorary Secretary is P.O. Box 459, Dar es Salaam.

The Dar es Salaam Amateur Dramatic and Musical Society was started in 1929 for the encouragement of the performance of stage plays and of music by amateurs. There is an annual subscription of Shs.5.

The European Civil Servants Association (address, P.O. Box 52, Dar es Salaam) was formed in 1920 with a view to the elevation and improvement of the Civil Service and the promotion of sympathy and understanding between the Government and its servants. It has a membership of about 400 and publishes, at intervals, a journal on matters of interest to the Service.

The European Constitutional Association is primarily a political body, having branches in various parts of the Territory, with headquarters in Dar es Salaam (address, P.O. Box 343, Dar es Salaam). The objects of the Association are to unite European opinion on matters of common interest, to promote the agricultural, commercial and mining interests of

the Territory, and to assist European settlement. The Association, which was formed in April, 1928, has a membership of about 380. An annual subscription of Shs.10 is payable by each member.

The Indian Association, with headquarters in Dar es Salaam (P.O. Box 46), has branches in most towns of the Territory and a very considerable membership. Its objects are to safeguard and promote the interests of the Indian population in Tanganyika.

The (Tanganyika) Irish Society was founded in January, 1930, with headquarters in Dar es Salaam (address, P.O. Box 401, Dar es Salaam). The Society is non-political and non-sectarian, established for social and philanthropic purposes only, its aim being to bring Irishmen in the Territory into closer touch with each other through periodical reunions. The membership in the first month of its establishment was 40.

The (Tanganyika) Law Society was formed in 1921 to safeguard the interests of the Bar in Tanganyika and to scrutinize proposed legislation, etc. Membership, which is about 20, is confined to advocates of the High Court.

The (Tanganyika Territory) Rifle Association was formed in 1922 to provide facilities for practice in the use of the rifle and for the encouragement of target shooting in Dar es Salaam. Membership is open to any adult British subject of European extraction. The Association is affiliated to the National Rifle Association. Dar es Salaam is the headquarters of the Association, which has branches in Dodoma, Morogoro, Tabora and Tanga.

The (Tanganyika) Society for the Prevention of Cruelty to Animals was formed in 1926 for the prevention of cruelty to and the succour of animals. The Society has a membership of 128, with headquarters in Dar es Salaam and branches up-country. An Ordinance modelled on portions of the Imperial Act of 1911 was passed in 1926 for the prevention of cruelty to animals.

The Women's Service League of Tanganyika was founded in November, 1927, under the patronage of Princess Marie Louise, to promote the interests and well-being of the women

and children of Tanganyika, to keep in touch with women's work throughout the Empire and to stimulate the sense of responsibility in social service and public welfare. The League, which has a membership of 190, has its headquarters in Dar es Salaam (address, P.O. Box 344) and branches or representatives in various up-country centres. The League does much useful work. It runs a registry office for native servants for the benefit of residents both in Dar es Salaam and up-country; it also has a committee which undertakes to select supplies and materials for those members who live in the districts remote from good shops. A library is attached to the League. The activities of the League are chiefly directed, at present, to the establishment of a residential club for women in Dar es Salaam, so that a club or hostel may be available for female employees who would be employed by commercial firms and professional people to a greater extent than is now possible if some such institution existed.

Zone time, which is three hours fast of Greenwich, has been the official time in use throughout the Territory since May, 1925.

There are thirty-six war cemeteries in Tanganyika, erected by the Imperial War Graves Commission, containing the remains of those who were killed or died during the campaign in German East Africa. The total number of names registered as casualties by the Imperial War Graves Commission is 6,183, of whom 2,819 have been identified and buried in registered graves. The remainder, 3,364, are commemorated on memorials which have been erected in the Territory. The maintenance of these war cemeteries has been undertaken by the Government of Tanganyika and all correspondence and inquiries relating to war graves, cemeteries and monuments in Tanganyika should be addressed to the Chief Secretary, Dar es Salaam.

Imperial weights and measures are in use in the Territory, but the metric system, which was the standard under the late German Government, is still in general use. A great number of scales and weighing machines in the Territory, including those on use on the Railways, were obtained before the war and are graduated in kilogrammes, so that the conversion to the Imperial standard would be a lengthy and costly process.

War grave
cemeteries.

Weights and
measures.

For this reason there is provision in the law relating to weights and measures for the retention of metric weights and measures side by side with Imperial ones, subject to the restriction or regulation of their use, if necessary, to prevent the defrauding of natives, either generally or in any particular area of the Territory. The law on the subject is contained in the Weights and Measures Ordinance (Chapter 95 of the Laws) which was enacted in 1924, but has not yet been put into force owing to the expense involved in obtaining the necessary standards. These, however, are to be purchased at an early date, after which the promulgation of the Ordinance is likely.

Prior to the introduction of the metric system by the German Government in 1910, the following Arabic units of weights and measures were in general use in German East Africa:

Measures of Capacity:

- 1 Kibaba, equivalent to about 1 pint or $1\frac{1}{2}$ lbs.
- 2 Kibaba, " " " 2 pints or 3 lbs.
- 2 Kisaga, " " 1 Pishi, or about 4 pints or 6 lbs.
- 6 Pishi, " " 1 Frasila, or about 24 pints or 36 lbs.
- 10 Frasila, " " 1 Jizla or Mzo (about 30 gallons).

The "kisaga" was not much used, the "kibaba" and "pishi" being the actual measures which were most common, the "frasila" and the "jizla" being quoted for produce in bulk.

Measures of Weight:

- 1 Wahia, the equivalent of 1 oz.
- 1 Ratili, the equivalent of 1 lb.

Linear Measures:

- 1 Shibiri, the equivalent of about 9 inches, based on the span with the thumb and little finger extended.
- 1 Mkono, the equivalent of about 18 inches, calculated on the length from the finger-tips to the elbow.
- 1 Wasi, the equivalent of about 1 yard.

About 1910-11, the German Government introduced the litre and metre as standard measures, one litre being about

1½ pints and one metre equivalent to 3·34 feet. The natives, however, continued to use the terms "pishi" and "kibaba" to denote the new measures of four litres and one litre capacity, although the metric measures were of greater capacity than the actual native measures.

There exists an unofficial but universally recognized unit of measure known as the "debe". This term is applied to the European kerosene tin which, in consequence of its suitability for head portage, has been adopted by the native as a convenient receptacle for the conveyance of grain to market.

On the introduction of the metric system by the late German Government the official unit of weight became the kilo, and both the native measure "ratili" (pound) and the kilo are now in common use in the native market.

The unit of linear measure became the metre and this measure with its sub-division, the half and quarter metre, is still employed.

CHAPTER XV

GLOSSARY

- Alida.** A native official or agent, usually of Arab or Swahili extraction, through whom the native administration was formerly conducted. The term was originally applied to a leader or commander of soldiers.
- Amerikani.** Cotton cloth, manufactured and first imported from America, from which it derives its name. The cloth is used by the natives for clothing and was the staple article among trade goods over Central Africa.
- Askari.** A soldier. Used of the native rank and file of the King's African Rifles and Police.
- Ayah.** A native nurse.
- Babu.** The name generally applied by the native to Indian clerks or Asiatic subordinate officials.
- Banda.** A temporary or semi-permanent house, generally constructed of mud and poles, or a grass shelter.
- Baniani.** The usual native name for the Indian trader.
- Baraza.** An Arabic word meaning seat or bench where the house-owner usually sat to receive his friends. Now commonly used to denote a public meeting or an assembly of elders.
- Bibi.** A native woman.
- Bin; Binti.** Son or daughter of; *e.g.* Abdallah bin Hamisi, Abdallah, son of Hamisi.
- Boma.** Originally a palisade or stockade serving as a fortification for towns or villages. The majority of Government stations were, in the early days, protected by some form of stockade, and the term has thus come to denote a Government station.
- Boriti.** Thick poles laid across from one wall to another in native houses to support the roof. The poles are cut from mangroves which are hard and termite-resistant.
- Buni.** Coffee berries or raw coffee, as apart from the prepared bean.

- Bwana.** Master or Mister. The title by which a European is usually addressed by the native. It is prefixed to words descriptive of a European's occupation or profession; *e.g.* Bwana Shauri, an administrative officer, Bwana Shamba, a planter, Bwana Miti, a forest officer, and so on.
- Debe.** A four-gallon kerosene tin, used by natives as a convenient receptacle for the conveyance of grain to market. It has thus come to be used as a rough measure of weight.
- Dhow.** The lateen-rigged vessel of Arabia. The dhow formerly played a notorious part in the slave trade between the East African coast and Arabia.
- Duka.** A shop.
- Frasila.** A measure of weight equal to about 36 lb.
- Fundi.** A skilled workman.
- Galawa.** A small canoe with outriggers, used by native fishermen on the coast. The boat is hollowed out from the trunk of a tree.
- Habari.** News or information. The name of a native newspaper published in Kenya.
- Heller.** One of the units of the German currency, still occasionally used by the older generation of natives as the equivalent of two cents.
- Hodi.** A cry made by a visitor inquiring, outside the door of the house, whether the occupant is at home. In East Africa, where few houses have bells, the term is used by native and non-native alike before entering a house.
- Jambo.** The usual Swahili salutation, meaning "How do you do?"
- Jamvi.** A large mat of coarsely plaited palm leaves.
- Jumbe.** A village headman.
- Kanzu.** A long garment, resembling a night-dress and reaching to the feet, worn by most coast natives and generally by all personal servants.
- Karani.** A clerk.
- Karibu.** To approach. "Karibu" is the reply to "Hodi" (see above) and is an invitation to the visitor to enter the house.
- Kathi.** The presiding official (usually Arab or Swahili) over a Mohammedan religious court in the coastal districts.
- Kibaba.** A measure used by natives, equal to about 1 pint or 1½ lb.
- Kiongozi.** A leader of a caravan or guide.
- Kodi.** A tax. The name usually applied to the hut and poll tax.
- Korja.** A commercial expression, possibly of Indian origin, denoting a score or bale.

Liwali. An Arab or Swahili judge of a Mohammedan court, who sometimes also exercises executive functions over the Mohammedan community of a township. He is superior in status to a Kathi.

Mambo. Affairs or news. *Mambo Leo* or "News of To-day" is the newspaper published in the vernacular by the Government for natives.

Mpagazi (*plural* Wapagazi). A porter.

Mzungu. A European.

Ngoma. A drum, but more generally used of a native dance at which the drum or tom-tom supplies the music.

Pesa. A small copper coin introduced into Zanzibar from India about 1845. Still used to denote nickel or copper coinage generally.

Pombe. See "Tembo".

Posho. The daily food ration of a native labourer.

Ratili. A weight equivalent to 1 lb.

Rupia. The Indian or German rupee, now no longer current.

Safari. A voyage or journey. A hunting expedition is called a "safari".

Serkali. The Government. "Mtu wa Serkali" means a government official.

Shamba. A garden, or piece of cultivated land. Applicable to the compounds of European houses and also to farms and plantations.

Shauri. Advice, plan or agreement. One of the commonest words in the language, used in every conceivable connexion by native and non-native to denote an affair or business of any nature.

Shibiri. The span between the thumb and little finger extended: used for measurement and equivalent to about nine inches.

Soko. A market. Used to denote the Indian bazaar or the collection of shops that exists in even the smallest townships.

Sultani. A native chief. The word "mtemi" is generally used of chiefs by the Wanyamwezi in the Tabora-Mwanza Provinces.

Tembo or **Pombe.** Fermented palm-wine from the coconut tree. Used, generally, to denote any form of intoxicating liquor.

Thumuni. Formerly an eighth part of a dollar; and, later, the quarter rupee, and now used of a 50-cent piece.

Wali. An Arab ruler or governor.

Wari. A measure of length equivalent to one yard.

APPENDIX I

LIST OF ADVOCATES LICENSED TO PRACTISE BEFORE HIS MAJESTY'S HIGH COURT OF TANGANYIKA AND COURTS SUBORDINATE THERETO.

DAR ES SALAAM:

Atkinson, Wright & Bown—

G. G. Atkinson (Barrister-at-Law, Ireland).

W. S. L. Wright (Solicitor, Ireland).

H. Bown (Barrister-at-Law, England).

K. S. Bajwa (Barrister-at-Law, England).

A. & R. N. Clark—

A. S. Clark (Solicitor, Scotland).

R. N. Clark (Solicitor, Scotland).

S. E. Williams (Solicitor, Ireland).

W. Dharsee (Barrister-at-Law, England).

Howe-Browne & Webster—

N. F. Howe-Browne (Barrister-at-Law, England).

R. E. A. Webster (Solicitor, England).

A. J. O. Kemp (Law Agent, Scotland).

Master & Houry—

K. A. Master (Barrister-at-Law, England).

G. N. Houry (Barrister-at-Law, England).

Mirza & Rasul—

B. Mirza (Barrister-at-Law, England).

Gulam Rasul (Barrister-at-Law, England).

R. S. Patel (Barrister-at-Law, England).

M. R. R. Pillai (Barrister-at-Law, England).

L. E. H. Power (Solicitor, Scotland).

H. F. Reece (Barrister-at-Law, England).

ARUSHA:

J. Baker-Smith—

J. Baker-Smith (Solicitor, Scotland).

A. Reid (Law Agent, Scotland).

ARUSHA—continued

Haywood & Thompson—

E. T. Haywood (Advocate, South Africa).

E. H. T. Thompson (Attorney, South Africa).

BUKOB:

A. A. Willis (see Mwanza).

IRINGA:

G. W. V. Fisk (Barrister-at-Law, England).

MOROGORO:

J. M. Robertson-Brown (Law Agent, Scotland).

MOSHI:

J. Baker-Smith (see Arusha).

Haywood & Thompson (see Arusha).

MWANZA:

I. C. Chopra (Barrister-at-Law, Ireland).

M. N. Patel (Barrister-at-Law, England).

H. Tremellen (Barrister-at-Law, England).

A. A. Willis (Barrister-at-Law, England).

TABORA:

Mirza & Rasul (see Dar es Salaam).

F. J. Patel (Barrister-at-Law, England).

TANGA:

G. G. T. Ainslie (Attorney-at-Law, South Africa).

M. P. Chitale (Barrister-at-Law, England).

A. & R. N. Clark (see Dar es Salaam).

F. B. Van Scharrel (Solicitor, South Africa).

OTHERS NOT RESIDENT IN TANGANYIKA

H. R. Bhaya	Resident in Zanzibar	(Advocate, Bombay).
J. Christie	Resident in Kenya	(Solicitor, Scotland).
P. S. Doctor	Resident in Zanzibar	(Advocate, Bombay).
G. C. Ishmael	Resident in Uganda	(Barrister-at-Law, England).
D. P. Khetani	Resident in Zanzibar	(Advocate, Bombay).
M. H. Malik	Resident in Kenya	(Barrister-at-Law, England).
C. B. Patel	Resident in Uganda	(Barrister-at-Law, England).
A. C. Ross	Resident in Kenya	(Barrister-at-Law, Ireland).
B. J. Sethna	Resident in Zanzibar	(Advocate, Bombay).
B. H. Wiggins	Resident in Zanzibar	(Solicitor, England).

APPENDIX II

CIVIL LIST

THE GOVERNOR

Governor and Commander-in-Chief, Sir D. C. Cameron, K.C.M.G., K.B.E., £4,500, with £1,500 duty allowance.

Private Secretary and Aide-de-Camp, Capt. G. E. Smith, £400.

Chief Clerk, G. J. Welsh (seconded to Somaliland), £480 by 20 to 600.

SECRETARIAT

Chief Secretary, D. J. Jardine, O.B.E., £2,000.

Secretary for Native Affairs, P. E. Mitchell, M.C. (seconded from Provincial Administration), £1,350.

Deputy Chief Secretary, S. B. B. McElderry, £1,350.

Assistant Chief Secretaries, F. J. Durman, £1,200; G. J. Partridge, £1,000.

Assistant Secretary for Native Affairs, A. E. Kitching (seconded from Provincial Administration), £1,000.

Assistant Secretaries, G. F. Sayers, D. C. Campbell, Pay Lt.-Comdr. A. Jeffrey, R.N.R., W. L. Heape, R. B. Richardson, E. R. E. Surridge, £400 for two years, £475 by 25 to 600, by 30 to 840, by 40 to 920.

Keeper of German Records, H. Nimmo, £600 by 30 to 720.

Chief Office Superintendent, R. G. Bailey, £600 by 30 to 720.

Superintendent, Registration Branch, A. R. M. Forrest, £480 by 20 to 600.

Stenographer to Legislative Council, Miss M. A. L. Grew, £400 by 20 to 480.

PRINTING AND STATIONERY

Government Printer, N. C. Drury, £720 by 30 to 840, by 40 to 920.

Press Superintendent, A. T. Ball, £540 by 20 to 600, by 30 to 720.

Assistant Superintendent, P. W. Newman, £426 by 18 to 500, by 20 to 600.

Linotype Operator, W. J. Apps, £390 by 18 to 480.

Linotype Operator Mechanic, J. H. Bowkett, £390 by 18 to 480.

Proof Reader, W. N. L. Dingle, £390 by 18 to 480.

Bookbinding Overseer, H. W. Keiffer, £390 by 18 to 480.

Machine Overseer, F. Stansfield, £390 by 18 to 480.

ADMINISTRATIVE

Provincial Commissioners, F. W. Brett, H. C. Stiebel, O.B.E., D. L. Baines, O.B.E., C. J. Bagenal, O.B.E., A. H. White, O.B.E., Lt.-Com. A. M. Clark, R.N. (retd.), H. Hignell, F. J. Bagshawe, M.B.E., R. A. Thompson, G. F. Webster, C. H. A. Grierson, £1,350 and £1,200.

Deputy Provincial Commissioners, E. C. Richards, T. G. Buckley, O.B.E., F. Longland, £1,000.

District Officers, Captain J. L. Berne, O.B.E., E. Reid, M.B.E. (Mil. Div.), E. E. Hutchins, W. Fryer, R. S. B. M. Hickson-Mahony, W. J. McMillen, Capt. F. C. Hallier, Major H. Rayne, O.B.E., M.C., G. F. Bell, A. W. M. Griffith, H. H. Allsop, G. Barnes, G. W. Hatchell, M.B.E., E. C. Baker, F. W. C. Morgans, T. P. S. Dawkins, C. H. B. Grant, W. F. Harrington, M.C., H. E. Major, K. H. Coleman, O. Guise Williams, C. McMahon, M.C., J. L. Woodhouse, R. W. Gordon, O.B.E., R. A. Pelham, H. L. Mood, L. P. R. Leslie-Cooke, H. C. Murrells, S. B. Jones, E. A. Leakey, W. Ronayne, J. E. S. Lamb, K. F. Warner, £720 by 30 to 840, by 40 to 920.

Assistant District Officers, F. G. Kinsella, R. E. Seymour, M.C., J. H. Welch, W. B. Robertson, M.C., G. Sheringham, R. H. Harris, M.C., J. Cheyne, W. E. H. Scupham, M.C., L. A. W. Vickers-Haviland, A. V. Hartnoll, M.C., Hon. F. W. Bampfylde, G. H. R. St. J. Owen, W. J. Bonavia, R. A. J. Maguire, M. A. Callaghan, D.S.O., C. C. Richards, F. J. Lake, R. C. Northcote, M.M., A. C. Davey, O. A. Flynn, J. D. Lawrence, M.C., M. O. L. Hering, W. T. H. Hilpern, W. F. Page, C. Dewhurst, J. G. E. Ransome, H. W. D. Pollock, C. M. Coke, J. R. Johnston, J. L. Fairclough, M.C., H. C. Baxter, E. K. Lumley, P. G. Russell, R. W. Varian, P. M. Huggins, A. A. Oldaker, O. S. Hopkin, C. B. Wilkins, J. W. Large, N. F. Burt, A. Sillery, L. S. Greening, M.C., A. L. Pennington, J. B. Budge, C. P. Lyons, A. H. Le Geyt, A. M. B. Hutt, F. H. Page-Jones, A. S. Armstrong, B. Leechman, T. E. M. Pringle, H. H. Armstrong, G. K. Whitlam-smith, J. F. Nicoll, S. A. Platts, A. W. Wyatt, R. de Z. Hall, T. M. Revington, C. E. D. Stiebel, C. Macpherson, Capt. D. A. G. Dallas,

H. R. F. Butterfield, A. Thomson, I. L. Robinson, R. W. Savory, G. D. Popplewell, C. H. Gormley, A. H. Maddocks, E. N. Landale, H. R. Gilbert, R. H. D. Arundell, Capt. W. J. Lloyd, D.S.O., M.C., C. F. Ellaby, H. S. C. Gill, Capt. F. W. N. Collingwood, M.B.E., G. A. Mitchell, £475 by 25 to 600, by 30 to 720, by 30 to 840, by 40 to 920.

Cadets, A. L. Harris, J. R. C. Priddle, A. H. Pike, D. A. Waring, F. A. Montague, J. F. R. Hill, W. S. Yates, A. K. Bate, A. T. Culwick, W. H. Carr-Birkbeck, E. G. Rowe, T. O. Pike, D. K. Daniels, W. A. Forbes, D. W. Malcolm, J. S. Darling, H. M. Alleyne, D. M. Fitzgerald, W. M. M. Duncan, O. T. Hamlyn, H. G. Richards, G. W. S. Conan-Davies, C. F. Beauclerk, H. J. Godson, S. A. Walden, R. H. Parker, L. D. Smith, A. G. de Courcy-Ireland, J. Crawford, S. H. M. Webb, M. J. B. Molohan, R. Bone, W. B. Tripe, D. C. MacGillivray, F. Nuttall-Smith, E. W. Miller, D. M. Hoops, L. M. Heaney, G. W. Y. Hucks, C. C. C. de Rosemond, Z. E. Kingdon, H. C. M. Potts, J. J. Tawney, J. V. Lewis, C. H. Thornley, H. H. McCleery, E. F. Webb, R. S. W. Malcolm, D. S. Troup, W. Martin, C. F. C. V. Cadiz, G. C. Bailey, K. H. Clarke, H. S. Senior, £400.

Assistant District Officers (supernumerary), Col. C. E. Wardle, C. E. G. Russell, F. H. Smith, £360 for two years, £425 by 25 to 600.

Financial Assistants, M. J. Cotton, O.B.E., S. Flaks, £600 by 30 to 720.

Tax Officer, T. H. W. Gould, £480 by 20 to 600.

Clerk, Dar es Salaam Township Authority, R. A. J. Walton, £372 by 18 to 480, by 20 to 540.

TREASURY

Treasurer, R. W. Taylor, C.B.E., £1,450.

Deputy Treasurer H. R. Latreille, £1,000.

Senior Assistant Treasurers, W. S. Akers, O.B.E., C. R. Lockhart, F. H. Christison, M.B.E., £720 by 30 to 840.

Assistant Treasurers, A. Muchmore, C. R. E. Littledale, M. J. Stewart, J. B. Brown, E. P. Troughton, C. D. Todd, W. V. Banting, E. C. Allen, £360 for two years, £425 by 25 to 600, by 30 to 720.

CUSTOMS

Comptroller of Customs, E. Adams, O.B.E., £1,200.

Deputy Comptroller of Customs, J. H. McQuade, £920.

500 THE HANDBOOK OF TANGANYIKA

Senior Supervisor, J. D. A. Massett, £720 by 30 to 840, by 40 to 920.
Supervisors, H. S. Hill, W. W. Clark, M.M., L. J. D. Smith, S. O. Dasent, W. G. Quann, C. V. Nicolle, A. W. S. Hooper, A. W. Northrop, R. E. Garrard, J. G. Hoatson, A. G. Brewer, J. T. Jenkins, £360 for two years, £425 by 25 to 600, by 30 to 720.
Inspector in Charge of Preventive Service, D. E. A. Tucker, £372 by 18 to 480.

LABOUR

Labour Commissioner, Major G. St. J. Orde-Browne,* O.B.E., £1,350.
Deputy Commissioner, L. S. Waterall,* £720 by 30 to 840, by 40 to 920.
Labour Officers, J. F. Kenny-Dillon,* W. D. E. Alcock,* H. D. Curry,* G. A. R. W. Ansdell,* A. L. George, M.M., A. L. B. Bennett, D.F.C., Capt. C. S. Scarth, M.C., C. H. Freeman, Capt. W. G. Baker, £400 for two years, £475 by 25 to 600, by 30 to 840, by 40 to 920.
Labour Supervisor, J. Deacon, £400.

* Seconded from Provincial Administration.

AUDIT

Auditor, W. E. Knollys, £1,150.
Deputy Auditor, R. H. Marshall, £960.
Senior Assistant Auditor, F. S. Williams, £720 by 30 to 840, by 40 to 920.
Assistant Auditors, W. B. Cox, C. L. Todd, L. H. Pope, F. P. L. Derriman, R. Lilley, £360 for two years, £425 by 25 to 600, by 30 to 720.

JUDICIAL

Chief Justice, J. A. Sheridan, £2,000.
Puisne Judges, I. L. O. Gower, K. J. Muir-Mackenzie, £1,350.
Senior Magistrates, I. G. Bates, J. H. G. McDougall, £840 by 40 to 920.
Magistrates, W. M. O'Grady, T. D. M. Bartley, R. C. G. D. Higginson, H. W. Wilson, J. W. Johnstone, £600 by 30 to 840.
Registrar of the High Court, W. A. Wilson, £600 by 30 to 720, by 30 to 840.
Deputy Registrar of the High Court, N. W. P. de Heveningham, £480 by 20 to 600.

LAW OFFICERS

Attorney-General, C. B. Francis, £1,650.

Solicitor-General, E. J. Macquarrie, £1,150.

Crown Counsel, F. A. Moseley, M.C., H. R. Hone, M.C., G. L. Jobling, £720 by 30 to 840, by 40 to 920.

ADMINISTRATOR-GENERAL

Administrator-General, J. L. Allan, £1,050.

Assistant Administrators-General, W. C. Curry, M.C., P. H. Hutchison, R. C. Redman, £600 by 30 to 720.

POLICE AND PRISONS

Commissioner, G. H. Kirkham, M.C., £1,200.

Deputy Commissioner, Major F. A. B. Nicol, O.B.E., £1,000.

Superintendents, J. W. Langford, F. M. Manning, F. P. Leathes, G. C. van Eeden, A. R. L. Neame, F. E. Little, A. McCallum, £600 by 30 to 840.

Pay and Quartermaster, C. N. Wedge, £600 by 30 to 840.

Assistant Superintendents, G. A. Darvill, C. A. T. Hornett, J. K. H. Muller, J. G. Toomer, A. G. de Villiers, H. le P. Agnew, J. Jenkinson, S. J. Brown, C. L. Noah, E. F. E. Wolton, M.M., W. Harris, C. E. Page, J. P. Hamilton, A. M. Esson, D. C. E. Clark, H. M. S. Bailey, £425 by 25 to 600, by 30 to 720.

Cadets, A. T. Garner, R. D. Vernon, C. H. Keir, R. E. Thorne, W. L. South, V. G. Revington, H. F. de L. Eccles, R. G. Skipwith, C. V. Curtis, £360 for two years, £425 by 25 to 600, by 30 to 720.

Chief Inspectors, A. R. Mill, W. H. Butcher, W. G. Taylor, £480 by 20 to 540.

Inspectors, T. V. Mills, D.C.M., C. W. Ruddick, G. Olliver, £372 by 18 to 480.

Assistant Inspectors, H. W. T. Butler, G. A. B. Collis, D. B. B. Harris, M. C. Hallier, W. Holman, O. Miles, A. H. M. Dryden, D. B. Dowling, W. J. Fuller, E. H. Riches, G. L. Giles, G. E. E. Kinge, C. M. D. Vigers, R. G. Veater, E. M. Rippon, J. C. Trevor, C. R. D'Oyly-John, A. McLeod, W. Duncan, L. P. Rouquette, J. C. Trevor, E. T. G. Browne, F. S. Such, £300 by 18 to 372.

Clerks, J. W. Deegan, J. M. Tomkins, £300 by 18 to 480.

Assistant Superintendent, Depot, J. R. Dyer, £425 by 25 to 600.

Instructors, G. Dyer, H. T. Moore, £372 by 18 to 426.

PRISONS

Assistant Commissioner of Prisons, S. R. Hill, M.C., £840 by 40 to 920.

Superintendents of Prisons, E. Wilkie, A. C. Taylor, D. Milne, £480 by 20 to 600.

Gaolers, C. A. Levet, R. J. Whelan, R. Hollyer, F. H. C. Dawson, W. J. Stubbington, D.C.M., W. M. Holden, M.C., M.M., S. E. McNeil, £372 by 18 to 425 (three may proceed to 480).

MEDICAL AND SANITATION

Director of Medical and Sanitary Services, J. O. Shircore, C.M.G., £1,500.

Deputy Director of Medical Service, R. Bury, M.B.E., £1,200.

Deputy Director of Sanitary Service, A. H. Owen, £1,200.

Deputy Director of Laboratory Services, P. A. Clearkin, £1,200.

Assistant Bacteriologist, H. J. O. Burke-Gaffney, £600 by 30 to 840, by 40 to 920.

Entomologist, J. W. McHardy, £600 by 30 to 840.

Analytical Chemist, W. Whitley, £600 by 30 to 720.

Senior Medical Officers, T. H. Suffern, C. L. Ievers, G. R. C. Wilson, J. H. Parry, A. S. Mackie, £1,000 by 50 to 1,100.

Senior Health Officers, R. R. Scott, M.C., R. Nixon, H. H. B. Follitt, A. I. Meek.

Sleeping Sickness Officer, G. Maclean, £1,000 by 50 to 1,100.

Medical Officers, J. F. Corson, A. McA. Blackwood, C. H. Philips, G. A. Williams, W. H. Dye, C. F. Shelton, J. J. B. Edmond, M.C., A. R. Lester, W. K. Connell, F. R. Lockhart, D. V. Latham, T. Langan, H. Fairbairn, J. Williamson, C. R. Steel, J. W. Graham, M.C., R. C. Spiers, J. S. Armstrong, M.C., R. Mackay, B. O. Wilkin, A. McKenzie, G. S. P. Noble, L. A. Willmott, I. Sanderson, D. A. Skan, B. A. Coghlan, W. J. Aitken, H. N. Davies, P. S. Bell, J. H. McDonald, J. Harkness, Miss M. Harvey Clarke, C. Wilcocks, S. E. Theis, C. J. MacQuillan, A. V. Clemmey, D. E. Wilson, J. B. C. Madge, F. V. Adams, K. Edmundson, N. Chilton, D. B. Wilson, I. C. Middleton, J. W. Walker, £600 by 30 to 840, by 40 to 920.

Dental Surgeons, H. M. Fisher, £600 by 30 to 840, by 40 to 1,000; A. S. Newton, £600 by 30 to 840, by 40 to 920.

Matron, Miss F. M. Plant, £440 by 20 to 500.

Senior Nursing Sisters, Miss J. Fraser, Miss E. L. Kemsley, R.R.C., Miss E. Bishop, Miss M. Donald, £300 by 18 to 426.

Sisters and Health Visitors, Miss B. G. Allardes, Miss A. L. Ryder, Miss E. Neale, Miss C. Kemp, Miss M. B. Craig, Miss A. A. Howorth, Miss E. Ashberry, Miss M. L. E. Avant, Miss A. C. MacPhee, Miss E. A. Cordwell, £264 by 18 to 354.

Nursing Sisters, Miss K. Thompson, Miss A. Muncaster, Mrs. M. K. Turnley, Miss E. Haslett, Miss K. P. Heckford, Mrs. E. B. Maclean, Miss M. Kay, Miss J. D. Leighton, Miss R. V. G. Daye, Miss J. L. Vaux, Miss L. M. Bishop, Miss B. Eager, Miss M. C. Ferguson, Miss J. Turnbull, Miss V. I. Dargan, Miss M. H. MacDonald, Miss A. S. Milne, Miss R. D. Whiteoak, Miss E. M. White, Miss E. M. Middleton, Miss A. C. Troughton, Miss L. Somen, Miss A. Smith, Mrs. E. L. Evans, Miss A. H. Gittins, Miss I. Mackenzie, Miss E. E. Woolforton, £240 by 18 to 300.

Accountant, J. L. Mason, £600 by 30 to 720.

Chief Storekeeper, H. W. Hassard, £480 by 20 to 600.

Assistant Storekeepers, W. H. Jones, J. Hetherington, £372 by 18 to 480.

Building Inspector, P. W. Morgan, £480 by 20 to 600.

Laboratory Assistants, H. Hammond, H. D. Plevin, £480 by 20 to 600.

Chief Clerk (vacant), £480 by 20 to 600.

Clerk, H. L. Lachlan, £300 by 18 to 480.

Senior Sanitary Superintendents, C. M. Rowe, W. A. Moore, £540 by 20 to 660.

Sanitary Superintendents, T. Bell, W. M. Mackay, B. T. Bailey, H. L. Bolton, C. Harlen, A. Hume, H. J. Rance, C. W. Foster, E. L. Morgan, J. Allan, A. S. Murdison, J. H. Salter, J. W. Jepp, R. B. Owen, C. W. Manton, H. Cooper, F. O. Hersee, £372 by 18 to 480, by 20 to 540.

Superintendent, Lunatic Asylum, J. Spittles, £372 by 18 to 480.

Matron, Lunatic Asylum, Mrs. C. M. Spittles, £300 by 18 to 372.

Clerk-Storekeeper, Health Office, N. M. Moore, £300 by 18 to 480.

Hospital Quartermaster (vacant), £372 by 18 to 426.

Medical Instructor, J. E. Crawley, £480 by 20 to 600.

Assistant Medical Instructor, J. H. Stafford, £372 by 18 to 426.

VETERINARY

Director of Veterinary Services, F. J. McCall, M.C., £1,200.

Deputy Director of Veterinary Services and Veterinary Pathologist, H. E. Hornby, O.B.E., £1,050.

Assistant Pathologist, S. A. Evans, £840.

Senior Veterinary Officers, H. J. Lowe, J. M. Dawson, M.C., J. D. S. Tremlett, M.C., £720 by 30 to 840 (may proceed to 920).

Veterinary Officers, D. B. Mahony, F. J. Hood, D. H. Dimes, Major R. H. C. Higgins, M.B.E., W. A. Burns, G. S. Cowin, G. E. M. Rogan, M. A. Molloy, R. S. Kyle, H. M. Salusbury, E. Messervy, N. R. Reid, £600 by 30 to 720, by 30 to 840.

Research Officer, R. L. Cornell, £720 by 30 to 840.

Entomologist, W. H. W. Baird, £720 by 30 to 840.

Assistant Livestock Officers, A. S. McKinnon, (vacant), £480 by 20 to 600.

Laboratory Assistant, E. S. E. Thompson, £372 by 18 to 480.

Stock Inspectors, A. G. Gowan, W. Cartmell, D.C.M., C. Kerr, T. W. Johnston, H. W. Ruhl, J. D. Hamman, M.C., W. G. Webb, P. E. Tully, P. B. Highet, R. H. Buck, H. E. Emson, H. E. C. Lewys-Lloyd, F. V. Heron, C. J. Buckley, P. E. Snell, G. W. H. Webb, C. M. Anderson, J. W. T. Holloway, H. W. Bailey, J. T. Purvis, R. J. H. Wood, S. A. Child, H. C. Smith, G. E. Howe, J. T. Holles, £372 by 18 to 480.

Farm Manager, H. Winship, £372 by 18 to 480.

Chief Clerk, H. C. W. Sanders, £480 by 20 to 600.

Storekeeper and Clerk, H. C. R. Formby, £300 by 18 to 480.

Departmental Mechanic, A. Young, £372 by 18 to 420.

EDUCATION

Director of Education, S. Rivers-Smith, C.B.E., £1,350.

Deputy Director, A. A. M. Isherwood, O.B.E., £1,000.

Secretary of the Inter-Territorial Language Committee, F. Johnson, £1,000.

Superintendents of Education, C. M. Baker, M.B.E., R. S. Foster, C. J. Tyndale-Biscoe, M.C., A. C. Donne, E. S. Williams, G. N. Eeles, R. J. Mason, W. B. Mumford, D. W. Evans, S. F. Male, R. J. Harvey, P. F. Chandor, C. Whybrow, P. E. W. Williams, J. J. Feely, J. W. Smethurst, D. Watt, H. W. E. Ginner, R. L. Browne, M. G. de Courcy-Ireland, G. G. Brown, R. H. Cutler, J. A. C. Blumer, D. R. John, W. D. Orchard, R. S. Horsfield, M. J. Cooke, J. Summerscales, P. W. Mollard, R. A. Wallington, R. W. Blaxland, J. W. T. Allen, R. H. Garforth, R. F. Stowell, £400 for two years, £475 by 25 to 600, by 30 to 840, by 40 to 920.

Headmistress, Miss E. M. Hake, £600.

Assistant Mistresses, Miss V. E. Somerville, Miss M. H. S. Hanna, £400.

Superintendent of Correspondence Course, Miss I. Begg, £500.

Senior Industrial Instructors, H. R. Griffiths, C. Goodall, £480 by 20 to 540.

Industrial Instructors, A. D. McFarland, C. R. Musson, J. W. Dowd, A. R. T. Peachell, W. H. Percival, T. Thompson, H. D. Taylor, P. R. Short, H. W. Dunn, H. C. Kelly, C. C. Wilks, W. G. H. Grindrod, £372 by 18 to 480.

Storekeeper, F. E. Toms, £300 by 18 to 480.

Clerk, J. Gower, £300 by 18 to 480.

TRANSPORT

Transport Officer, J. W. Hayfield, £720.

Senior Assistant Transport Officer, R. Quantrell, £600 by 30 to 720.

Assistant Transport Officer, C. P. Beadon, £480 by 20 to 600.

Superintendent, Workshops, H. Miller, £480 by 20 to 600.

Motor Mechanics, J. G. Gardner, V. G. Barnett, A. E. Savage, R. Hill, £372 by 18 to 480.

POST AND TELEGRAPHS

Postmaster-General, W. T. Storm, £1,200.

Deputy Postmaster-General, P. R. Smith, £1,000.

Surveyors, E. W. Dyer, L. W. Snow, W. J. Riddell, £600 by 30 to 720.

Senior Postmasters, J. J. Rowsell, E. A. Sadler, £480 by 20 to 600.

Postmasters, J. W. Wakeford, G. Tilley, J. T. Marland, A. W. Drury, W. J. Matthews, W. Ross, A. P. Ross, A. A. McKinnon, J. W. Jarrett, F. J. Baker, J. Lamont, C. A. Kay, A. E. Hill, A. E. Couser, C. Gill, J. Meredith, A. V. Groves, A. N. Skelton, C. J. Tilt, K. G. W. McArthur, £372 by 18 to 426, by 18 to 480.

Chief Telegraph Engineer, W. Bullock, £840 by 40 to 920.

Telegraph Engineers, W. G. Tucker, W. A. Atterbury, £600 by 30 to 720.

District Telegraph Inspectors, S. M. Jack, S. B. Stredwick, £480 by 20 to 600.

Senior Telegraph Inspectors, F. Ord, J. H. Owen, G. A. Wootton, C. H. Pook, W. H. Thompson, M.M., £426 by 18 to 480.

Telegraph Inspectors, W. T. Pritchard, W. Hargrave, S. J. W. McKone, G. Scott, M. Hamilton, W. L. J. Creal, F. R. Buckle, R. F. Benton, W. T. Marland, L. E. Timms, F. Candish, J. J. Moralee, A. W. Dennier, B. W. Friend, A. F. Strudwick, £372 by 18 to 426.

Chief Electrical Mechanician, G. H. J. White, £426 by 18 to 480.

Electrical Mechanics, A. Brayshaw, A. S. Gibson, £372 by 18 to 444.

Chief Accountant, D. M. Fraser, £720 by 30 to 840.

Deputy Chief Accountant, A. R. James, £480 by 20 to 600.

Accountants, J. C. Grierson, S. T. Collins, E. W. Perrett, J. Evans, £372 by 18 to 480.

Chief Storekeeper, E. A. Armstrong, £480 by 20 to 600.

Wireless Officer, A. G. Stickland, £372 by 18 to 480.

AGRICULTURE

Director, E. Harrison, £1,350.

Deputy Director, H. Wolfe, £1,000.

Senior Agricultural Officers, J. F. C. O'Brien, C. K. Latham, A. S. Richardson, A. J. Wakefield, £720 by 30 to 840.

Agricultural Economist, R. R. Staples, £720 by 30 to 840.

Entomologist, A. H. Ritchie, £600 by 30 to 840.

Assistant Entomologist, W. V. Harris, £480 by 20 to 600.

Mycologist, G. B. Wallace, £600 by 30 to 840.

Agricultural Lecturer, A. E. Haarer, £600 by 30 to 840.

District Agricultural Officers, L. C. Edwards, D. G. Burns, C. M. H. Sutherland, W. J. Hill, C. B. Garnett, D. Sturdy, H. Musk, A. S. Stenhouse, C. Harvey, C. J. McGregor, A. H. Savile, N. V. Rounce, J. E. Bruce, R. M. Maynard, B. J. Hartley, W. B. Hutchinson, R. D. Linton, J. Robinson, F. R. Sanders, R. B. Allnut, F. W. Thomas, £480 by 20 to 600, by 30 to 720.

Cotton Investigators, H. Marsland, T. Cairns, £480 by 20 to 600, by 30 to 720.

Head Gardener, *Dar es Salaam*, T. H. Marshall, £426 by 18 to 534.

Agricultural Assistants, E. T. Ward, R. W. Collett, R. H. Dick, T. M. W. Sheppard, T. S. Jervis, D. F. T. Brown, D. H. Lyon, L. L. Moore, £300 by 18 to 480.

Chief Clerk, W. E. Pownall, £480 by 20 to 600.

Clerk, C. H. Taylor, £300 by 18 to 390, by 18 to 480.

FORESTS

Conservator of Forests, D. K. S. Grant, £1,150.

Senior Assistant Conservator of Forests, J. A. Simmance, £720 by 30 to 840.

Assistant Conservators of Forests, C. L. Bancroft, W. F. Baldock, L. A. Markham, L. G. T. Wigg, H. Fraser, H. R. Herring, C. L. Stocker, H. J. Rea, £480 by 20 to 600, by 30 to 720.

Foresters, F. J. Ross, A. S. Adamson, E. D. Maber, A. T. Reid, H. A. Lewis, T. W. Lewis, J. M. Hendry, J. A. A. McKendrick, H. Burrows, R. R. Baldwin, D. A. Fletcher, £390 by 18 to 480, by 20 to 500.

GAME

Game Warden, Brigadier I. U. Battye, D.S.O., £900.

Senior Game Ranger, R. G. Fairweather, £600.

Game Rangers, S. P. Teare, M. S. Moore, V.C., J. Minnery, M.C., D.C.M., F. D. Arundell, M.C., £360 for two years, £425 by 25 to 600.

Senior Cultivation Protector, E. P. W. Stroud, £600.

Cultivation Protectors, M. J. Norton, D. E. Blunt, W. O. Harvey, J. F. Gabbutt, £700 and £600.

LAND

Land Officer, A. Greig, M.B.E., £1,150.

Deputy Land Officer, J. J. Craig McFeely, £600 by 30 to 720.

Assistant Land Officers, R. A. H. Tougher, £600 by 30 to 720; R. A. Cotton, A. L. Morris, G. M. Oliphant, E. G. Fitt, £480 by 20 to 600.

Clerks, G. W. Williams, J. H. Willmott, J. E. Jardin, £300 by 18 to 390, by 18 to 480.

SURVEY

Director of Surveys, P. E. L. Gethin, A.F.C., £1,150.

Assistant Director of Surveys, R. A. Godwin-Austen, £840 by 40 to 920.

District Surveyors, F. S. O'Molony, J. G. Foulds, H. P. Rowe, G. E. H. Wilson, £720 by 30 to 840.

Senior Staff Surveyor, F. M. Ford, £600 by 30 to 840.

Staff Surveyors, A. G. Stevens, C. A. V. Hall, A. W. Morris, S. S. Willis, W. W. B. Kitching, W. Horsfield, P. R. Savy, H. F. Rainford, J. B. Laws, E. C. L. Lees, F. H. Grandy, M.M., A. J. Seex, J. A. J. Thompson, A. M. Francombe, R. N. Lissett, A. W. Soltan, £480 by 20 to 600, by 30 to 720.

Chief Computer, H. Hops, £720 by 30 to 840.

Computers, S. H. Ramsey, T. F. G. Johnson, W. A. Erritt, H. W. P. Richards, £400 for two years, £480 by 20 to 600, by 30 to 720.

Chief Draughtsman, F. J. Parfitt, £480 by 20 to 600, by 30 to 720.

Draughtsmen, A. G. Whitehead, E. G. Blight, J. McQuie, E. Harvey, A. R. McLennan, A. H. J. Robertson, £372 by 18 to 480.

Office Superintendent and Storekeeper, S. Thomas, £480 by 20 to 600.

Air Mechanic, F. G. Templeman, £372 by 18 to 480.

Photographer, R. B. Herring, £372 by 18 to 480.

MINES

Commissioner of Mines, R. Gregson Williams, £1,150.

Senior Inspector of Mines, B. E. Frayling, £840 by 40 to 920.

Inspectors of Mines, J. A. Fawdry, H. F. W. Harmer, £600 by 30 to 720, by 30 to 840.

Assistant Inspectors of Mines, W. Hoatson, V. T. Hockin, L. F. F. W. Streit, £480 by 20 to 600.

Clerks, A. W. Field, H. P. Soundy, £300 by 18 to 480.

GEOLOGICAL SURVEY

Director of Geological Survey, E. O. Teale, £1,100.

Senior Assistant Geologist, F. B. Wade, £840 by 40 to 920.

Assistant Geologists, D. R. Grantham, G. M. Stockley, D. Orr, £600 by 30 to 840.

Chemist and Petrologist, F. Oates, £600 by 30 to 840.

Topographer, L. T. Higson, £372 by 18 to 480.

Boring Foreman, B. L. Waizeneker, £372 by 18 to 480.

Well Foreman, L. Ellero, £372 by 18 to 480.

Clerk, J. A. Hudson, £300 by 18 to 480.

PUBLIC WORKS

Director of Public Works, F. G. Pratt, £1,350.

Deputy Director of Public Works, C. H. Reynolds, £1,100.

Executive Engineers, C. Y. Stevenson, R. F. O. Peet, £840 by 40 to 920.

Road Engineer, H. L. Burdett, £720 by 30 to 840, by 40 to 920.

Senior Assistant Engineers, W. H. McLuckie, W. A. Lea, L. L. R. Buckland, R. E. Ponsonby, D. M. Menda-Gibson, N. A. Bennett, R. MacDonald, £720 by 30 to 840.

Assistant Engineers, S. Gardner, R. N. Briggs, B. A. Rice, J. Brown, S. A. Larrett, J. L. Brown, H. S. Roe, H. G. Thorpe, H. N. Wilford, H. Wallhouse, T. W. Cubitt, E. W. Pennefather, A. Sim, R. W. Bagley, £480 by 20 to 600, by 30 to 720.

Assistant Road Engineers, E. A. Rutherford, J. H. Amos, £480 by 20 to 600, by 30 to 720.

Chief Accountant, W. J. Gould, £720 by 30 to 840.

- Deputy Chief Accountant*, R. W. Price, £480 by 20 to 600.
- Accountants*, D. H. Fear, G. G. Giffard, A. G. Tubb, A. J. MacEwan, E. E. Roden, A. B. B. Petrie, £372 by 18 to 426, by 18 to 480.
- Architect*, J. H. Pashen, £600 by 30 to 720.
- Chief Draughtsman*, R. W. Wilcocks, £540 by 20 to 600, by 30 to 720.
- Quantity Surveyor*, H. W. Ford, £540 by 20 to 600.
- Draughtsmen*, C. K. Adams, W. P. Heard, R. T. Swales, J. E. Osborne, £372 by 18 to 480.
- Chief Storekeeper*, E. J. Lack, £600 by 30 to 720.
- Assistant Chief Storekeeper*, T. W. Williams, £480 by 20 to 600.
- Storekeepers*, B. W. Davis, S. Cook, £300 by 18 to 390, by 18 to 480.
- Chief Clerk*, C. A. Westbury, £480 by 20 to 600.
- Clerks*, H. M. Croft, A. B. Humphreys, W. M. Donaldson, J. E. McCann, C. J. Forbes, £300 by 18 to 390, by 18 to 480.
- Workshop Superintendent*, E. Hooper, £480 by 20 to 600.
- Water Supply Superintendent*, A. E. Downs, £480 by 20 to 600.
- Assistant Water Supply Superintendent*, F. G. Coppin, £426 by 18 to 480.
- European Mechanic* (vacant), £390 by 18 to 444.
- Senior Inspectors*, E. S. Sutherland, A. M. Watters, A. E. Collins, F. Bullock, E. C. Kent, A. M. Watson, £480 by 20 to 540.
- Inspectors of Works, 1st Grade*, J. A. Kemp, D. Jackson, W. Clay, M.M., T. J. Walls, J. Baggott, S. R. Huggins, £426 by 18 to 480.
- Inspectors of Works, 2nd Grade*, G. S. Cox, M.M., A. J. Hopwood, J. S. Hance, C. W. Hancock, S. Campbell, T. Mitchell, W. Organ, D. J. McBride, J. Howard, J. M. Keeffe, J. J. B. Wheatcroft, A. Trump, A. R. Cobner, E. R. S. Gray, T. W. Ashenden, J. E. Bull, A. B. Ririe, E. J. P. Hall, W. Robertson, J. M. Merrett, R. E. Rosling, R. J. Goodson, W. Waite, J. Fraser, £372 by 18 to 444.
- Road Foremen*, G. Murison, W. A. Jenkins, E. N. D. Barr, M.C., J. F. Butcher, G. H. Noakes, A. M. Watermayer, G. H. Edge, L. M. de Luzy, J. B. M. de Chaumont, A. H. Garbutt, E. S. Kay, £372 by 18 to 444.

In addition to the above a staff of engineers and foremen are employed on temporary agreements for certain public works which are being constructed from loan funds.

TSETSE RESEARCH

Director, C. F. M. Swynnerton, £1,200.

Deputy Director and Ecologist, J. F. V. Phillips, £1,000.

Entomologists, W. H. Potts, £800; T. A. M. Nash, £600.

Botanists, B. D. Burt, G. W. St. C. Thompson, £600.

Zoologist, C. H. N. Jackson, £600.

Secretary and Librarian, N. H. Vickers-Harris, £500.

Observers, J. F. Duncan, V. A. C. Findlay, S. N. Bax, J. D. Scott,

J. Y. Moggridge, £400 for two years, £425 by 25 to 600.

RAILWAYS

General Manager, Col. G. A. P. Maxwell, D.S.O., M.V.O., M.C., £2,400.

Deputy General Manager, H. N. Davies, O.B.E., £1,400.

Chief Accountant (vacant), £1,250.

Deputy Chief Accountant, S. C. Hillier, £840 by 40 to 920.

Assistant Accountants, S. B. Whineray, C. E. Davis, E. Thomas, H. Sharpe, £480 by 20 to 600, by 30 to 720.

Office Superintendents, H. S. C. Ramos, D. Graham, £480 by 20 to 600.

Chief Storekeeper, N. Dorkin, £1,050.

Storekeepers, M. Elliott, A. Fisher, D. P. Cousin, H. J. Bolsom, £480 by 20 to 600, by 30 to 720.

Chief Engineer, C. Gillman, £1,350.

Senior District Engineer, C. C. Eccles, £1,050.

District Engineers, J. D. Cleland, E. E. Dawson, T. H. Layton, L. J. Martin, £720 by 30 to 840, by 40 to 920.

Assistant Engineers, G. G. Jackson, W. M. Duncan, S. M. Sclanders, J. W. Lloyd-Davies, D.S.O., M.C., H. F. McCullagh, J. C. Forgan, N. R. Rice, A. A. Heath, W. Wallace, K. F. W. Woods, £480 by 20 to 600, by 30 to 720.

Draughtsmen, R. W. Norton, H. H. Williams, £480 by 20 to 600.

Chief Mechanical Engineer, W. F. D. Allison, £1,250.

District Locomotive Superintendents, H. G. E. Harris, H. B. Stoyke, £720 by 30 to 840, by 40 to 920.

Assistant Locomotive Superintendents, J. H. Gardner, A. G. Robinson, J. W. Thompson, A. G. Cowley, H. D. Hopps, W. Slade, £480 by 20 to 600, by 30 to 720.

Works Superintendent, Dockyard, W. H. C. Bradley, £480 by 20 to 600.

Office Superintendent, E. J. S. Tully, £480 by 20 to 600.

Traffic Manager, A. B. Chanter, £1,250.

Deputy Traffic Manager, L. M. Smart, £1,050.

Traffic Superintendents, W. E. Allison, J. F. Meehan, £720 by 30 to 840, by 40 to 920.

Assistant Traffic Superintendents, A. F. Wingate, A. Dalton, E. C. Borman, R. G. Hurst, J. R. Roberts, F. Wilson, £480 by 20 to 600, by 30 to 720.

Office Superintendent, J. Salmine, £480 by 20 to 600.

Marine Superintendent, Captain C. T. Hewlett-Cooper, R.N., £840.

Marine Officers, H. P. Barker, D.S.C., J. Harrison, D.S.O., R.N., R. G. Hudson, £480 by 20 to 600.

Pilot, W. G. Sawtell, £480 by 30 to 600.

Captain, T.R.S. "Azania", Comdr. A. E. Woods, R.D., R.N.R., £720 by 30 to 810.

Chief Engineer, T.R.S. "Azania", R. Muir, £426 by 18 to 480.

Master, T.R.S. "Liemba", G. A. C. Sharpe, D.S.C., R.N., £560 by 20 to 600.

Chief Engineer, T.R.S. "Liemba", L. G. Halliday, £560 by 20 to 660.

Chief Electricity Engineer, E. Dennis, £960.

Senior Assistant Electricity Engineer, A. W. Grant, £720 by 30 to 840, by 40 to 920.

Assistant Electricity Engineers, J. E. Brunnen, A. H. Finnis, H. H. Morton, H. Watkin, £480 by 20 to 600, by 30 to 720; H. H. Manson, £480 by 20 to 600.

Assistant Electrical Engineer, G. Eccleston, £400 by 20 to 540.

Accountant and Storekeeper, H. Lovell, £372 by 18 to 480.

HARBOUR WORKS, DAR ES SALAAM

Resident Engineer, W. H. Budler, £1,200.

Assistant Engineers, A. V. Martin, C. W. J. Mountford, £600 by 30 to 720.

Clerk, Harbour Works, R. M. Shimmin, £535.

EAST AFRICAN AGRICULTURAL RESEARCH STATION

Director, W. Nowell, C.B.E., £1,500.

Entomologist (vacant), £1,000.

Plant Pathologist, H. H. Storey, £850 by 50 to 1,000.

Soil Chemist, G. Milne, £780 by 30 to 840.

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Biochemist, R. R. Le G. Worsley, £720 by 30 to 840.

Plant Physiologist, F. J. Nutman, £600 by 30 to 840.

Geneticist, L. R. Doughty, £600 by 30 to 840.

Superintendent of Plantations, F. M. Rogers, £480 by 20 to 600, by 30 to 720.

Secretary and Librarian, R. E. Moreau, £480 by 20 to 600, by 30 to 720.

Botanist, P. J. Greenway, £480 by 20 to 600, by 30 to 720.

Assistant Superintendent of Plantations, K. E. Toms, £426 by 18 to 534.

Assistant Secretary and Librarian, W. M. Nutter, £400.

Manager, Kwamkoro Estate, E. M. Nicholl, £600.

Laboratory Assistant, R. F. W. Nichols, £300.

Stenographer, Miss K. Rushworth, £250.

APPENDIX III

CUSTOMS DUTIES

(Under the Customs Tariff Ordinance, 1930.)

GENERAL NOTES

The headings of the respective classes in this Schedule are used only for convenience of classification, and do not in any way affect the interpretation of the Tariff.

“n.e.e.” means “not elsewhere enumerated”.

The term “in bulk”, when it appears in the Tariff, means—

- (a) goods loose without packing, or loose in barrels, casks or any other single outside package, but not including goods imported by parcel post;
- (b) when in internal packages, that the net contents of any immediate container of goods weigh not less than ten pounds or measure not less than one imperial gallon.

Goods chargeable with duty by weight are, except where otherwise provided for, charged with duty on the net weight, which may be arrived at either by weighing net, or deducting from the gross weight the actual tare or an average tare agreed to by the importer.

“Piece goods” shall not include material which is defined by selvedge or by pattern for cutting up into separate articles.

Tins, jars, bottles and other receptacles of reputed weight or content to be deemed not less than such weight or content.

Twenty-four reputed half-pints, twelve pints, six reputed quarts or four reputed imperial quarts to be deemed to be not less than one gallon.

Cement in packages of not less than 350 lb. and not more than 400 lb. to be deemed 400 lb.

Oils and motor spirits in ordinary reputed two five-American-gallon or ten one-American-gallon tins to be deemed to be not less

than eight and one-third imperial gallons, and two reputed four-gallon tins to be deemed to be not less than eight imperial gallons.

"Proof" shall mean the strength of proof as ascertained by Syke's hydrometer.

"Proof spirits" shall mean spirits which, at a temperature of fifty-one degrees Fahrenheit, weigh twelve-thirteenths of an equal volume of distilled water at the same temperature.

A complete article imported in an unassembled condition, except where specially provided for, is liable to the rate of duty which would be applicable to that article if imported in a fully set up condition, notwithstanding that the constituent parts are packed separately and are separately provided for elsewhere in the Tariff.

Integral parts of an article which is liable to an *ad valorem* duty, or is free of duty, imported for replacement purposes, or as spare parts, shall be liable to the same rate of duty as the article itself, or free of duty, as the case may be, unless they are specifically excluded, or provided for elsewhere, in the Tariff.

GOODS OF WHICH THE IMPORTATION AND EXPORTATION IS PROHIBITED

Indecent or obscene prints, paintings, books, cards, lithographic or other engravings or any indecent or obscene articles.

Provisions, meat, fruit and vegetables declared by the Health Officer as unfit for human consumption.

Matches made with white phosphorus.

Raw or prepared opium, poppies, and all preparations thereof excepting red poppy petals and syrup of red poppies.

Shaving brushes manufactured in or exported from the Empire of Japan.

Trade spirits of every kind and beverages mixed with these spirits.

Distilled beverages containing essential oils or chemical products which are recognized as injurious to health, such as thujon, star anise, benzoic aldehyde, salicylic esters, hyssop and absinthe.

Indian Rupees, Indian currency notes and other Indian currency.

Immature spirits.

False money and counterfeit sterling coin of the realm, and any money purporting to be such not being of the established standard in weights or fineness.

Rifles and ammunition of .303 calibre.

Any article marked without the authority of His Majesty with the Royal Arms or monogram, or with any arms or monogram so closely resembling the Royal Arms or monogram as to be calculated to deceive.

Manufactured articles bearing the name, address or trade-mark of any manufacturer or dealer, or the name of any place in the United Kingdom, or any British Possession, calculated to impart to them a special character of British manufacture, and not of such manufacture.

RESTRICTED IMPORTS

Arms, ammunition, explosives and weapons of all sorts.

Plants and seeds.

Cotton-seeds.

Animals.

Raw gold.

Poppies, all preparations of, except red poppy petals and syrup of red poppies (*Papaver rhæas*).

Cannabis sativa (known as Hemp or True Hemp and in Swahili as Bhang or Bangi).

Distilling apparatus and machinery.

Naval, military or civil accoutrements or uniforms or any dress having the appearance or bearing any of the regimental or other distinctive marks of any such uniform or which may, in the opinion of the Comptroller of Customs, be used to convey the impression that a person wearing the dress holds any office of authority under the Government of the Territory.

Rat virus.

Second-hand clothing, blankets, and other similar articles imported for sale.

PROHIBITED EXPORTS

To all foreign countries:

Ammunition, butter, cocaine, explosives other than industrial explosives, firearms, opium, silver.

To China:

Munitions of war of every description.

RESTRICTED EXPORTS

Raw gold.

Animals, elephant tusks, rhinoceros horns, hippopotamus teeth and game trophies.

Cinematograph films depicting scenes or events photographed in Tanganyika.

SCHEDULE

CLASS I.—ANIMALS, AGRICULTURAL AND PASTORAL PRODUCTS,
FOODSTUFFS

Item.	Article.		Duty.
1	Animals, living—		
	(a) Cattle for slaughter, n.e.e. . .	Each	Shs.20
	(b) Sheep and goats for slaughter, n.e.e. . .	Each	Shs.3
	(c) Cattle, sheep and goats for slaughter imported from the Belgian Congo . .		Free
	(d) Other, including poultry . .		Free
2	Bacon and ham	<i>Ad valorem</i>	20 per cent (plus a suspended duty of 10 per cent <i>ad valorem</i>) ¹
3	Biscuits	<i>Ad valorem</i>	20 per cent
4	(a) Bones, ivory, hoofs, horns, skins, and teeth, being parts of animals, fishes and reptiles, not being manufactured, polished, dressed or further prepared than dried or cleaned, but in their raw and unmanufactured state . .		Free
	(b) Hog casings (sausage skins) . .		Free
	(c) Ornamental feathers, n.e.e. . .	<i>Ad valorem</i>	20 per cent
5	Butter	<i>Ad valorem</i>	20 per cent (plus a suspended duty of 10 per cent <i>ad valorem</i>)
6	Cheese	<i>Ad valorem</i>	20 per cent (plus a suspended duty of 10 per cent <i>ad valorem</i>)
7	Corn, grain and pulse (not including infants' foods, patent or proprietary foods, or corn, grain, or pulse prepared as vegetables:		
	(a) Wheat—		
	(i) In the grain	Per 100 lb.	Shs.3
	(ii) Ground or otherwise prepared	Per 100 lb. (plus a suspended duty of Shs.1/50 per 100 lb.) ¹	Shs.3 20 per cent
	(iii) Bran, wheaten . . .	<i>Ad valorem</i>	20 per cent
	(b) Rice—		
	(i) In the grain	Per 100 lb.	Shs.4
	(ii) Otherwise prepared . .	<i>Ad valorem</i>	20 per cent

¹ The suspended duties on bacon and ham and on wheat—ground or otherwise prepared—were imposed by Proclamation dated the 17th of April, 1930.

APPENDIX III

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CLASS I.—ANIMALS, AGRICULTURAL AND PASTORAL PRODUCTS, FOODSTUFFS—(continued)

Item.	Article.		Duty.
	Corn, etc.—(continued)—		
	(c) Maize—		
	(i) In the grain		Free (plus a suspended duty of 20 per cent <i>ad valorem</i>)
	(ii) Meal		Free (plus a suspended duty of 20 per cent <i>ad valorem</i>)
	(iii) Otherwise prepared . .	<i>Ad valorem</i>	20 per cent
	(d) Other corn and grain . .	<i>Ad valorem</i>	20 per cent
	(e) Pulse—		
	(i) Dhall	Per 100 lb.	Shs.4
	(ii) Other pulse, including meal and flour	<i>Ad valorem</i>	20 per cent
8	Cotton, raw		Free
9	Extracts and essences of all kinds for food and flavouring . . .	<i>Ad valorem</i>	20 per cent
10	Fish—		
	(a) Fresh, of East Africa taking		Free
	(b) Fry and ova		Free
	(c) Salted, dried, or preserved by cold process	Per 100 lb. 20 per cent <i>ad valorem</i> , whichever is the greater)	Shs.2 (or 20 per cent <i>ad valorem</i> , whichever is the greater)
	(d) Other	<i>Ad valorem</i>	20 per cent
11	Foods—		
	(a) Specially prepared for in- fants, but not including virol, roboleine and simi- lar tonic foods	<i>Ad valorem</i>	10 per cent
	(b) Tonic and similar foods, e.g. ovaltine, roboleine, virol, and similar preparations, not being medicines	<i>Ad valorem</i>	20 per cent
	(c) Cod-liver oil and cod-liver oil and malt extracts	<i>Ad valorem</i>	10 per cent
12	Fruits and vegetables—		
	(a) Fresh or green, n.e.e. . .		Free
	(b) Bottled, tinned, or other- wise preserved	<i>Ad valorem</i>	20 per cent
	(c) Dates, imported in bulk . .	Per 100 lb.	Shs.4
	(d) Other fruits and vegetables .	<i>Ad valorem</i>	20 per cent
13	Garlic	Per 100 lb.	Shs.5
14	Ghee	Per lb. a suspended duty of Cts.15 per lb.)	Cts.30 (plus a suspended duty of Cts.15 per lb.)
15	Hops, in bulk	<i>Ad valorem</i>	10 per cent
16	Malt, condensed, and worts, for the brewing of beer	<i>Ad valorem</i>	10 per cent
17	Milk—		
	(a) Condensed, desiccated, or preserved, n.e.e. . . .	Per 100 lb.	Shs.10
	(b) Cream	Per lb.	Cts.50

**CLASS I.—ANIMALS, AGRICULTURAL AND PASTORAL PRODUCTS,
FOODSTUFFS—(continued)**

Item.	Article.		Duty.
18	Onions, not preserved . . .	Per 100 lb.	Shs.3
19	Poultry grit and spice, bone meal and bone flour		Free
20	Rennet		Free
21	Salt—		
	(a) Rock or crushed rock salt . .		Free
	(b) Common, n.e.e., imported in bulk	Per 100 lb.	Sh.1
	(c) For curing or dairy purposes .		Free
	(d) Other	<i>Ad valorem</i>	20 per cent
22	Seeds, bulbs, plants, trees and tubers, for planting or sowing only		Free
23	Sugar—		
	(a) Jaggery	Per 100 lb. (plus a suspended duty of Shs.6 per 100 lb.)	Shs.6
	(b) Refined, imported in pack- ages of more than 28 lb. net, but not including candy, cube, loaf, castor or icing sugar	Per 100 lb. (plus a suspended duty of Shs.6 per 100 lb.)	Shs.6
	(c) Sugar, other	<i>Ad valorem</i>	20 per cent
24	Tea	Per lb.	Cts.40

CLASS II.—ALES, WINES, SPIRITS AND BEVERAGES

Item.	Article.		Duty.
25	Ale, beer, cider, perry and stout, all kinds, of a strength exceeding 3 per cent of proof spirit . . .	Per Imp. gal.	Shs.2/50
26	Beverages, cordials and syrups, n.e.e., not exceeding 3 per cent of proof spirit	<i>Ad valorem</i>	20 per cent
27	Spirits—		
	(a) Perfumed	Per Imp. gal.	Shs.60
	(b) Liqueurs, cordials and mixed potable spirits, exceeding 3 per cent of proof spirit . . .	Per Imp. gal.	Shs.40
	(c) Other potable spirits exceed- ing 3 per cent of proof spirit, e.g. brandy, whisky, rum, gin, geneva, and rectified spirits, n.e.e. . . (NOTE.—No allowance will be made for underproof in excess of 12½ per cent)	Per proof gal.	Shs.40
	(d) Methylated and denatured spirits, not potable, and not including power alcohol	Per Imp. gal.	Shs.2
	(e) Power alcohol, not potable	Per Imp. gal.	Cts.30

APPENDIX III

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CLASS II.—ALES, WINES, SPIRITS AND BEVERAGES—(continued)

Item.	Article.		Duty.
	Spirits—(continued)—		
	(f) Toilet preparations, essences and tinctures, n.e.e., containing over 3 per cent of proof spirit, but not including tooth washes and dentifrices	<i>Ad valorem</i>	30 per cent
	(g) Wood naphtha, pyridine and similar denaturants		Free
	(h) Spirituous tooth washes and dentifrices	<i>Ad valorem</i>	20 per cent
	(i) Rectified spirits to be used solely in the compounding of drugs and medicines		Free
28	Waters, mineral, aerated and table—		
	(a) In bottles, each not more than one reputed half-pint	Per doz. bot.	Cts.75
	(b) In bottles each more than one reputed half-pint and not more than one reputed pint	Per doz. bot.	Shs.1/50
	(c) In bottles each more than one reputed pint and not more than one reputed quart	Per doz. bot.	Shs.3
	(d) In other containers or larger bottles	Per Imp. gal.	Shs.1/50
29	Wines—		
	(a) Vermouth	Per Imp. gal.	Shs.4/50
	(b) Other still wines, n.e.e.—		
	(i) Imported in bottle	Per Imp. gal.	Shs.4/50 (or 30 per cent <i>ad valorem</i> , whichever is the greater)
	(ii) Imported in casks or other containers of five gallons or over	Per Imp. gal.	Shs.2/50 (or 30 per cent <i>ad valorem</i> , whichever is the greater)
	(c) Sparkling wines—		
	(i) Champagne	Per Imp. gal.	Shs.12/50 (or 30 per cent <i>ad valorem</i> , whichever is the greater)
	(ii) Other	Per Imp. gal.	Shs.10 (or 30 per cent <i>ad valorem</i> , whichever is the greater)
	(d) Sacramental wine, on proof to the satisfaction of the Comptroller of Customs that it is imported for use as such		Free
	(NOTE.—Wines containing less than 3 per cent of proof spirit are not included in the above, and wines containing more than 50 per cent of proof spirit are classed as spirits)		

CLASS III.—TOBACCO AND MANUFACTURES THEREOF

Item.	Article.		Duty.
30	Cigars, cheroots and cigarillos .	Per lb.	Shs.5 (or
		<i>ad valorem</i> 62½ per cent,	whichever is the greater)
31	Cigarettes	Per lb.	Shs.2/40 (or
		<i>ad valorem</i> 62½ per cent,	whichever is the greater)
32	Snuff	Per lb.	Shs.1/50
33	Tobacco, manufactured, n.e.e. .	Per lb.	Shs.2/40 (or
		<i>ad valorem</i> 62½ per cent,	whichever is the greater)
34	Tobacco, unmanufactured . .	Per lb.	Sh.1

CLASS IV.—TEXTILES, APPAREL, YARNS AND FIBRES

Item.	Article.		Duty.
35	Bags and bagging (not including paper or leather bags), and hessian and sacking in the piece (not including matting), for the packing for wholesale distribution or export of local produce or manufactures		Free
36	Bands and belting for driving machinery		Free
37	Battery cloth and baize, bolting cloth, gauze, matting, sieving and screening for use in connexion with machinery; brattice cloth, filter cloth and mill silk		Free
38	Clothing apparel and blankets, second-hand (reconditioned or otherwise), for sale	<i>Ad valorem</i>	30 per cent
39	Coconut and fibre matting in the roll, not being mats or interior floor coverings	<i>Ad valorem</i>	10 per cent
40	Cotton piece goods, grey, unbleached, imported in the piece	Per lb.	Gross weight, including the packing, Cts.30 (or 20 per cent <i>ad valorem</i> , whichever is the greater)
41	Dressings, surgical, imported as such		Free

CLASS IV.—TEXTILES, APPAREL, YARNS AND FIBRES—(continued)

Item.	Article.		Duty.
42	Nets and netting (not wire)— (a) Fishing nets (not including anglers' landing nets) . (b) Fruit-tree and seed-bed netting . (c) Nets for use in games and sports . (d) Mosquito nets and netting .	<i>Ad valorem</i>	Free Free 10 per cent Free
43	Rope and cordage— (a) Driving ropes for machinery (b) Baling rope, for the packing of produce . (c) Seaming and binder twine; harvest yarn .		Free Free Free

CLASS V.—METALS, METAL MANUFACTURES, MACHINERY AND VEHICLES

Item.	Article.		Duty.
44	Airships, aeroplanes and other aircraft, and parts and accessories thereof, but not including batteries, magnetos, ignition coils, sparking plugs, and rubber tyres and tubes, imported separately	<i>Ad valorem</i>	Free
45	Bolts, nuts, nails, screws, rivets, hinges, dog-spikes, and washers		10 per cent
46	Buckets, dustbins, incinerators, destructors and similar appliances and apparatus, imported for public services in connexion with the collection and disposal of refuse .		Free
47	Builders' requisites and materials (metal)— (a) Buildings, complete, imported in sections . (b) Metal windows, doors and house frames . (c) Gutterings, ridgings, ventilators . (d) Casement stays, door handles, door closers, finger-plates, latches, rim and mortice locks and lock furniture, and similar door and window furniture, but not including padlocks .	<i>Ad valorem</i> <i>Ad valorem</i> <i>Ad valorem</i> <i>Ad valorem</i>	10 per cent 10 per cent 10 per cent 10 per cent

CLASS V.—METALS, METAL MANUFACTURES, MACHINERY AND VEHICLES—(continued)

Item.	Article.		Duty.
	Builders' requisites, etc.—(contd.)		
	(e) Sanitary and lavatory appliances (metal): lavatories, sinks, water-closets, baths, geysers, cisterns, and taps, plugs, traps, overflows, and other fittings therefor . . .	<i>Ad valorem</i>	10 per cent
	(f) Lifts, passenger, including the gates . . .	<i>Ad valorem</i>	10 per cent
	(g) Concrete reinforcing metal; expanded metal . . .	<i>Ad valorem</i>	10 per cent
48	Bullion in the bar or sheet; coin and specie . . .		Free
49	Carts, carriages and wheeled vehicles, not self-propelled—		
	(a) Agricultural wagons, carts and trailers, and parts thereof		Free
	(b) Wheelbarrows, sack-trucks, and hand-trolleys . . .		Free
	(c) Tar and pitch boilers, street-spraying machines, and similar vehicles ordinarily employed in the construction and maintenance of roads . . .		Free
	(d) Carts and trailers, imported for public services in connexion with the collection and disposal of refuse . . .		Free
	(e) Bicycles, tricycles, rickshas and carriages (not including baby carriages), and parts and accessories thereof (not including rubber tyres or tubes when imported separately) . . .	<i>Ad valorem</i>	15 per cent
	(f) Other wheeled vehicles, n.e.e., and parts and accessories thereof (not including rubber tyres or tubes when imported separately) . . .	<i>Ad valorem</i>	10 per cent
50	Chains: trek, hauling or hoisting chains, and shackles therefor, not including anti-skid chains for motor and steam vehicles . . .		Free
51	Cranes, hoists, winches, chain pulleys, bucket and gravity conveyors and completed parts thereof, including slings . . .		Free
52	Cylinders for use, or in use, as containers for compressed gas, not being parts of gas lighting apparatus . . .		Free

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CLASS V.—METALS, METAL MANUFACTURES, MACHINERY AND VEHICLES—(continued)

Item.	Article.		Duty.
53	Fencing material: gates, hurdles, posts, standards, strainers, staples, winders, and other materials or fasteners ordinarily used for agricultural or railway fencing		Free
54	Filters, not being parts of motor vehicles, for the purification or softening of water, or for use in connexion with machinery for manufacturing or industrial purposes		Free
55	Fire escapes, fire engines and fire extinguishing apparatus, and parts and refills therefor		Free
56	Gauze, metal; sieving and screening of metal for use in connexion with machinery		Free
57	Machinery, apparatus, appliances and implements (not specially provided for, and not including material, domestic machines or vehicles)—		
	(a) For agricultural, dairying or water-boring purposes		Free
	(b) For mining purposes, n.e.e.		Free
	(c) Fixed plant and machinery for factory installation and for manufacturing and industrial purposes, but not including structural steelwork for staging and platforms		Free
	(d) Presses for produce, and parts thereof		Free
	(e) Pumps and rams for water supply, sewerage, drainage or irrigation		Free
	(f) Lawn-mowers, garden shears, garden and path rollers, watering-cans and similar horticultural and gardening requisites	<i>Ad valorem</i>	10 per cent
	(g) Mechanics' and artisans' tools, being tools ordinarily used by mechanics or artisans, and not being agricultural implements or machine tools	<i>Ad valorem</i>	10 per cent
	(h) Machinery, apparatus, appliances and instruments (not including tools, or domestic or toilet machines, or appliances else-		

CLASS V.—METALS, METAL MANUFACTURES, MACHINERY AND VEHICLES—(continued)

Item.	Article.		Duty.
	where provided for) and electrical material used in connexion therewith, for the generation, storage, transmission, distribution of, or lighting by, gas or electric power, and parts thereof, but not including electroliers, gasoliers, lamps, lamp-shades or reflectors, portable batteries or electrical appliances for use in connexion with vehicles.		Free
	(i) Other, for manufacturing or industrial purposes, including machine tools, but not including structural steelwork for staging and platforms		Free
58	Metals—		
	(a) Aluminium, in plain, perforated or corrugated sheets, or in strips, but otherwise unmanufactured . . .	<i>Ad valorem</i>	10 per cent
	(b) Brass, bronze, copper and composition metal, in plain or perforated sheets or in strips, but otherwise unmanufactured . .	<i>Ad valorem</i>	10 per cent
	(c) Iron and steel—		
	(i) Plates and sheets, plain, corrugated, perforated, galvanized or enamelled, including plates covered with lead, tin or zinc, n.e.e. . .	<i>Ad valorem</i>	10 per cent
	(ii) Angle, bar, channel, rod, hoop, H., T., and similar iron and steel, not worked or fabricated and not elsewhere enumerated	<i>Ad valorem</i>	10 per cent
	(iii) Fabricated girders and fabricated steelwork for buildings and bridges not elsewhere enumerated, structural steelwork for staging and platforms	<i>Ad valorem</i>	10 per cent

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CLASS V.—METALS, METAL MANUFACTURES, MACHINERY AND VEHICLES—(continued)

Item.	Article.		Duty.
	Metals—(continued)—		
	(iv) Hoop iron for the baling of produce and fasteners therefor .		Free
	(d) Lead: bar, sheet and strip .	<i>Ad valorem</i>	10 per cent
	(e) Tin and zinc: plate, n.e.e., bar, sheet, plain or perforated but otherwise unmanufactured .	<i>Ad valorem</i>	10 per cent
	(f) Zinc: fume, dust and shavings .		Free
	(g) Mercury and its compounds .		Free
	(h) Metals of all sorts, n.e.e., including brazing and soldering alloys, in rods, bars, blocks, ingots or pigs .	<i>Ad valorem</i>	10 per cent
	(i) Metalliferous ores .		Free
	(j) Linotype metal .		Free
	(k) Foil: lead, tin or aluminium foil for the packing of locally manufactured goods .		Free
59	Metal signs or name-plates bearing any commercial advertisement or the name and qualifications or professional attainments of the importer .		Free
60	Memorial tablets and brasses, engraved; ornaments for graves .		Free
61	(a) Motor cars, motor and steam lorries of a carrying capacity of less than 30 cwt., motor cycles and other mechanically propelled road vehicles, and chassis thereof, n.e.e., together with their appropriate initial equipment .	<i>Ad valorem</i>	10 per cent
	(b) Motor and steam lorries, of a carrying capacity of 30 cwt. and over, and chassis thereof, n.e.e., together with their appropriate initial equipment .		Free
62	Motor and steam road and farm tractors; stone crushers, road rollers, graders, and scarifiers, road sweepers and sprayers and other mechanically propelled engines, machines and vehicles ordinarily employed in the construction and maintenance of roads; motor ambulances; parts and accessories therefor, but not		

CLASS V.—METALS, METAL MANUFACTURES, MACHINERY AND VEHICLES—(continued)

Item.	Article.		Duty.
	including lamps, bulbs, batteries, magnetos, ignition coils, sparking plugs, and rubber tyres and tubes, when imported separately		Free
63	Motor vehicle and motor engine parts and accessories, not specially provided for	<i>Ad valorem</i>	10 per cent
64	Packing and lagging for engines, machinery, piping and buildings, n.e.e.	<i>Ad valorem</i>	10 per cent
65	Pickaxes, crowbars, shovels, earth-pans, axes and hatchets, n.e.e. . .	<i>Ad valorem</i>	10 per cent
66	Pipes, piping, tubes and fittings (metal)— (a) For gas, steam, drainage, water supply, sewerage, irrigation, or in manufacturing or industrial plant, not including down-pipes or guttering, but including meters, culverts, cocks, taps, grids, man-hole covers and fittings . . . (b) Down-pipes, chimney pipes, n.e.e. (c) Lead piping, not elsewhere provided for	<i>Ad valorem</i> <i>Ad valorem</i>	Free 10 per cent 10 per cent
67	Printers' type, of metal, and electros		Free
68	Railway and tramway construction and equipment requisites; rails, sleepers, fastenings for rails and sleepers, switchboxes, culvert tops, locomotives and other rolling stock, turn-tables, signals, weighbridges, and similar railway and tramway equipment requisites, n.e.e.		Free
69	Refrigerating machinery, and mechanically cooled refrigerators . .		Free
70	Sprayers, sprinklers, vermin traps and other apparatus and appliances used for the prevention or destruction of pests, or of diseases in stock, plants or trees . .		Free
71	Tanks, complete or in sections— (a) Imported for use in connexion with a public water supply system (b) Other, not elsewhere provided for	<i>Ad valorem</i>	Free 10 per cent
72	Telegraphic and telephonic materials, equipment and instruments		

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CLASS V.—METALS, METAL MANUFACTURES, MACHINERY AND VEHICLES—(continued)

Item.	Article.		Duty.
73	for the construction, working and maintenance of telegraph or telephone lines, or for the transmission or reception of wireless telegraphy or telephony, but not including stationary, or electric batteries suitable for use in motor vehicles		Free
74	Weighing and measuring machines and appliances, not elsewhere provided for, including petrol and oil pumps	<i>Ad valorem</i>	10 per cent
	Wire—		
	(a) Wire ordinarily used for native adornment—		
	(i) Iron	Per 100 lb.	Shs.7
	(ii) Brass	Per 100 lb.	Shs.20
	(iii) Copper	Per 100 lb.	Shs.25
	(iv) Aluminium	Per 100 lb.	Shs.25
	(b) Steel wire and lead wire, n.e.e.	<i>Ad valorem</i>	10 per cent
	(c) Gauze and wire netting . .		Free
	(d) Fencing and baling wire . .		Free
75	Wire rope, and split links, shackles and thimbles for use in connexion therewith		Free

CLASS VI.—MINERALS, EARTHENWARE AND GLASS-WARE

Item.	Article.		Duty.
76	Asbestos and asbestos cement manufactures, namely, sheets, plain or corrugated, slates, tiles, ridging and guttering, asbestos washers and gaskets, and asbestos packing	<i>Ad valorem</i>	10 per cent
77	Asphalt and bitumen in bulk . .		Free
78	Bottles and jars, common, of glass or earthenware, empty, and syphons ordinarily used for aerated waters, not including sparklet and similar syphons . .		Free
79	Bricks, slates and tiles for building purposes	<i>Ad valorem</i>	10 per cent
80	Cement—		
	(a) Portland and similar cement for building purposes . .	Per 400 lb.	Shs.1/50

CLASS VI.—MINERALS, EARTHENWARE AND GLASS-WARE—(continued)

Item.	Article.		Duty.
	Cement—(continued)—		
	(b) Cement clinker	<i>Ad valorem</i>	10 per cent
	(c) Pudlo, ironite, cementone and similar substances for proofing, hardening or colouring cement	<i>Ad valorem</i>	10 per cent
	(d) Plaster of paris, in bulk	<i>Ad valorem</i>	10 per cent
	(e) Putty	<i>Ad valorem</i>	10 per cent
81	Coal, coke and patent fuel		Free
82	Crucibles, cupels, cupelling furnaces, ingot moulds and furnaces for roasting minerals		Free
83	Emery, corundum, carborundum and similar abrasives, in bulk or the form of cloth, paper, stones or wheels; sandglass and flint-paper; grind-stones and scythe-stones	<i>Ad valorem</i>	10 per cent
84	Filters		Free
85	Firebricks, fireclay, fire cement and furnace cement, not being component parts of a furnace or boiler installation imported complete or in sections	<i>Ad valorem</i>	10 per cent
86	Talc powder, in bulk, not being a toilet preparation	<i>Ad valorem</i>	10 per cent
87	Glass—		
	(a) Illuminated windows imported by or for presentation to any religious body		Free
	(b) Polished plate, not silvered or bevelled	Per sq. ft.	Cts.30
	(c) Sheet (plain, clear)	Per 100 sq. ft.	Shs.2
	(d) Other	<i>Ad valorem</i>	20 per cent
88	Glass-ware, china-ware and porcelain-ware—		
	(a) For laboratory use or scientific purposes		Free
	(b) Lenses, optically ground, for spectacles		Free
	(c) Other, n.e.e. . . .	<i>Ad valorem</i>	20 per cent
89	Graphite or plumbago	<i>Ad valorem</i>	10 per cent
90	Marble or other stone—		
	(a) In the rough, or sawn	<i>Ad valorem</i>	10 per cent
	(b) Tombstones and memorials for graves, engraved with a commemorative inscription to a deceased person		Free
91	Pipes, piping and tubes, of earthenware, for drainage, irrigation, sewerage, water supply or water pumping, or for use in manufacturing or industrial plant		Free

CLASS VI.—MINERALS, EARTHENWARE AND GLASS-WARE—(continued)

Item.	Article.		Duty.
92	Sanitary earthenware, stone-ware, or porcelain-ware; baths, lavatory basins, cisterns, water-closets, urinals and sinks, but not including portable toilet ware	<i>Ad valorem</i>	10 per cent

CLASS VII.—OILS, WAXES, RESINS, PAINTS AND VARNISHES

Item.	Article.		Duty.
93	Ambergris, in the rough . . .	<i>Ad valorem</i>	50 per cent
94	Belt dressing	<i>Ad valorem</i>	10 per cent
95	Grease, axle and lubricating . .	<i>Ad valorem</i>	10 per cent
96	Motor spirit, and products ordinarily used as such; benzine, benzoline, naphtha (non-potable), n.e.e., gasoline, petrol and petroleum, shale and coal-tar spirit generally, but not including power paraffin or kerosene . .	Per Imp. gal.	at 62° F. Cts.30
97	Oils, essential (natural and synthetic), and perfumed, not being medicinal, or for use as food or flavouring	<i>Ad valorem</i>	30 per cent
98	Oils, heavy, in bulk, for road or pavement construction . . .		Free
99	Oils, mineral— (a) Crude or residual oil, not suitable for purposes of illumination, in bulk . . (b) Oil, kerosene and power paraffin	Per Imp. gal.	Free at 62° F. Cts.20 Free
100	Oil, transformer		Free
101	Oils, tar and creosote, in bulk, including solignum and similar substances for the preservation of wood, not including wood-preserving ornamental stains . .		Free
102	Oils, n.e.e., not including edible oils	<i>Ad valorem</i>	10 per cent
103	Paints, colours, varnishes and driers: distemper, red and white lead, enamels, cellulose and similar paints, japan, berlin or brunswick black, lamp black, whiting, liquid size, shellac, french polish, wood stains, lacquer, linseed and hempseed oil, terebine, turpentine substitutes	<i>Ad valorem</i>	10 per cent
104	Soaps, common, viz. laundry, polishing and soft soap . . .	Per 100 lb.	Shs.5
105	Tar and pitch, in bulk		Free

CLASS VIII.—DRUGS, CHEMICALS AND FERTILIZERS

Item.	Article.		Duty.
106	Acetic and other acids, and similar preparations, for use as mediums for the disinfection or coagulation of fluid latex		Free
107	Animal glands and tissues and their preparations, toxins and anti-toxins; lymph, sera and vaccines		Free
108	Boiler compositions and preparations for removing scale in boilers	<i>Ad valorem</i>	10 per cent
109	Disinfectants and germicides		Free
110	Drugs, medicated dressings, medicinal preparations and antiseptics		Free
111	Dyes—		
	(a) Annatto		Free
	(b) Microscopic stains for laboratory work		Free
	(c) Hair dyes and similar toilet preparations	<i>Ad valorem</i>	30 per cent
	(d) Other	<i>Ad valorem</i>	20 per cent
112	Fertilizers and manures, animal, mineral or vegetable, artificial or natural		Free
113	Gas, compressed, in cylinders—		
	(a) For medical use, or as anaesthetic		Free
	(b) Other	<i>Ad valorem</i>	10 per cent
114	Perfumery, cosmetics, and toilet preparations, n.e.e., but not including tooth powders, tooth pastes or tooth washes	<i>Ad valorem</i>	30 per cent
115	Potassium chlorate, cyanide and sulphocyanide, sodium cyanide and sulphocyanide, red phosphorus		Free
116	Radium and radium compounds		Free
117	Silicate of soda, caustic soda and caustic potash, litharge, saltpetre and roll sulphur, in bulk		Free
118	Sulphate of copper, arsenate and arsenite of soda, arsenate of lead, cyanogas, naphthalene, animal dips, insect sprays and similar substances for the prevention or destruction of pests or for the prevention or cure of diseases in animals, plants or trees		Free

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CLASS IX.—LEATHER AND RUBBER, AND MANUFACTURES THEREOF

Item.	Article.		Duty.
119	Bands and belting of all kinds for driving machinery other than motor vehicles; belt lacing and belt fasteners		Free
120	Hose, transmission, all kinds		Free
121	Tyres and tubes, rubber, not attached to wheels or vehicles— (a) Pneumatic— (i) Tyres, including the weight of the immediate wrapper (ii) Tubes for motor vehicles or for side-cars and trailers for motor vehicles (iii) Tubes, bicycle and other (b) Solid; complete, or in lengths, or in the piece	Per lb. Per lb. Per lb. Per lb.	Cts.25 Cts.20 Cts.25 Cts.10

CLASS X.—WOOD AND MANUFACTURES THEREOF

Item.	Article.		Duty.
122	Beehives and incubators and other wooden appliances for dairy and agricultural purposes only, and parts thereof		Free
123	Boxes and casks, wooden, empty or in shooks, for the packing of oil, kerosene or motor spirit, or of eggs, dairy produce or other goods the product of manufactures or agriculture within the Territory		Free
124	Corkwood, unmanufactured, and cork floats for fishing nets		Free
125	Handles, wooden, for tools and implements	<i>Ad valorem</i>	10 per cent
126	Joinery: wooden framework of houses, window frames, sashes, casements, doors, lintels and builders' mouldings.	<i>Ad valorem</i> (plus a suspended duty of 20 per cent <i>ad valorem</i>)	10 per cent
127	Plywood and pulp boards	<i>Ad valorem</i>	10 per cent
128	Vats and tanks, wooden, for use in industrial, agricultural or manufacturing operations		Free
129	Wood and timber, unmanufactured— (a) Teak, in the log, or hewn or sawn (b) Other, n.e.e., including planed, smoothed, grooved or tongued.	<i>Ad valorem</i> <i>Ad valorem</i>	10 per cent 10 per cent (plus a suspended duty of 20 per cent <i>ad valorem</i>)

CLASS XI.—BOOKS, STATIONERY, PAPER AND PAPER MANUFACTURES

Item.	Article.		Duty.
130	Atlases, charts, globes and maps .		Free
131	Bags, paper— (a) Multiple and waterproof bags for the packing for whole-sale distribution, or export, of local produce or manufactures; paper linings for bags for the packing of sugar manufactured within the Territory .	<i>Ad valorem</i>	Free 20 per cent
	(b) Other .		
132	Banknotes and other paper currency, and postage stamps (used or unused) .		Free
133	Books, printed, and printed matter, namely, literature, periodicals and newspapers (other than periodicals and newspapers imported for packing purposes), guide books, directories, pamphlets, leaflets, catalogues and price lists, printed or lithographed religious texts, and music (other than roll music for autopianos); showcards, calendars and similar printed matter imported solely for advertising purposes .		Free
134	Cardboard boxes, cartons and discs imported for the packing of local produce or manufactures		Free
135	Cardboard, strawboard and mill-board .	<i>Ad valorem</i> Per pack	10 per cent Cts.70
136	Cards, playing .		Free
137	Diagrams, plans and similar drawings .		Free
138	Inks and ink powders— (a) For use in the printing industry, namely, printing and lithographic ink, printers' bronze powder, roller composition, stamping colours .	<i>Ad valorem</i> <i>Ad valorem</i> <i>Ad valorem</i>	10 per cent 10 per cent 20 per cent
	(b) Stencil ink, solid .		
	(c) Other .		

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CLASS XI.—BOOKS, STATIONERY, PAPER AND PAPER MANUFACTURES—(continued)

Item.	Article.		Duty.
139	Paper— (a) Cigarette paper (b) Printing paper, namely, newsprint in reels or in the flat, plain or composite paper, n.e.e., in reels of not less than 9 in. wide, or flat and folded, in the original mill ream wrapper, of a size not less than 16 in. by 15 in.	<i>Ad valorem</i>	30 per cent
140	Pictures, paintings, engravings, etchings, picture books and drawings, not elsewhere provided for, including photographic reproductions and enlargements— (a) Imported solely for advertising purposes, and having an advertisement indelibly printed, engraved or lithographed thereon, but not including menu cards or similar advertising stationery (b) Picture postcards, Christmas, New Year, birthday or similar cards, calendars and calendar mounts, menu cards, and other forms of stationery imported as such, whether bearing pictures or otherwise (c) Other, n.e.e.	<i>Ad valorem</i> <i>Ad valorem</i>	10 per cent Free 20 per cent 10 per cent

CLASS XII.—FANCY GOODS, TIME PIECES AND MUSICAL INSTRUMENTS

Item.	Article.		Duty.
141	Band instruments and stands, the <i>bona fide</i> property of any military, naval, police or volunteer corps, or imported by, or on behalf of, or for presentation to, any religious body or the Boy Scout, Girl Guide or other similar Association, and not being the property of individuals		Free

THE HANDBOOK OF TANGANYIKA

CLASS XII.—FANCY GOODS, TIME PIECES AND MUSICAL INSTRUMENTS—(continued)

Item.	Article.	Per lb. 20 per cent whichever is the greater	Duty. Cts.60 (or <i>ad valorem</i> , whichever is the greater)
142	Beads		
143	Clocks and watches— (a) Tower clocks— (i) For churches and public buildings (ii) Other (b) Other clocks and watches	<i>Ad valorem</i> <i>Ad valorem</i>	Free 10 per cent 20 per cent
144	Cups, medals and other trophies, imported for presentation— (a) As prizes at public examinations, exhibitions, shows, or for competitions of skill or sport open to the public or members of recognized clubs (b) For bravery, good conduct, humanity, for excellence in art, industry, invention, manufactures, learning, science or for honourable or meritorious public services Provided that proof to the satisfaction of the Comptroller of Customs is produced prior to clearing such articles through the Customs that they are intended for presentation as specified above.		Free Free
145	Organs and blowers therefor, harmoniums, and church plate, imported by or for presentation to any religious body		Free
146	Sporting and athletic goods, n.e.e., used exclusively for indoor and outdoor games, but not including clothing	<i>Ad valorem</i>	10 per cent
147	Toys and games, children's, including toy cycles, scooters and the like	<i>Ad valorem</i>	10 per cent

CLASS XIII.—MISCELLANEOUS

Item.	Article.	Duty.
148	Baggage, the <i>bona fide</i> baggage of a passenger, the property of and accompanied by such passenger, as defined below— <i>Bona fide</i> baggage shall consist of: necessary and appropriate wearing apparel and personal effects; binoculars, cameras, sports	Free

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CLASS XIII.—MISCELLANEOUS—(continued)

Item.	Article.	Duty.
	<p>requisites, portable typewriters, toys and articles for household use (such as sewing machines, furniture, carpets, pictures, glass-ware, linen, cutlery, crockery and plate) which are proved to the satisfaction of the Comptroller of Customs to have been in personal or household use by the passenger and are not for sale; instruments and tools for the professional use of passengers.</p> <p><i>Bona fide</i> baggage shall not include such articles as the following: Arms, ammunition, beverages, cigars, cigarettes or tobacco, perfumed spirits, carriages, motor vehicles, bicycles, musical instruments (unless elsewhere provided for), saddlery, provisions.</p> <p>NOTE</p> <p>(1) Duty shall not be leviable on alcoholic liquors or perfumed spirits not exceeding one pint of each, cigars not exceeding 50 in number, cigarettes not exceeding 100 in number, or tobacco not exceeding $\frac{1}{4}$ lb. in weight.</p> <p>(2) <i>Bona fide</i> baggage landed at any Customs port within two months of the arrival of the passenger, or such further period as the Comptroller of Customs may allow, may be included in the above exemption at the discretion of the Comptroller.</p>	
149	Blasting compounds, including all kinds of explosives, fuses and detonators suitable and intended for blasting and not suitable for use as fireworks or in firearms.	Free
150	Cinematograph projectors and magic lanterns and slides therefor, imported for use in or by scientific or educational institutions.	Free
151	Church decorations, altars, bells, fonts, lecterns, pulpits and vestments imported by or for presentation to any religious body.	Free
152	Coffins, funerary urns and caskets.	Free

CLASS XIII.—MISCELLANEOUS—(continued)

Item.	Article.		Duty.
153	Consular goods, namely, articles for the official use of any foreign consulate or, on first arrival in the Territory, the household and personal effects of the consular representative of any foreign country, or his family or suite, if such consular representative is not engaged in any other business or profession in the Territory. Provided that a similar privilege is accorded by such foreign country to the British Consulate therein		Free
154	Containers, including boxes, tins, bottles, jars and other packages, imported full of any article liable to a specific rate of duty and being ordinary trade packages for the goods contained therein		Free
155	Felt, rubberoid, uralite and similar substances for building purposes; flooring composition and roofing compounds	<i>Ad valorem</i>	10 per cent
156	Films, cinematograph, printed or exposed for exhibition— (a) Of a scientific or educational nature for exhibition solely to or by scientific or technical societies or in educational institutions (b) Other		Free
157	Fireworks	Per 500 linear ft.	Shs.2
158	Ice	Per lb. gross	Free
159	Lifebelts, lifebuoys and other life-saving apparatus		Free
160	Matches— (a) In boxes of not more than 100 matches (b) In boxes containing more than 100 and not more than 200 matches (c) And for every 100 additional matches, or part of 100, in excess of 200 per box (d) Tear-off matches, in strips, discs or booklets	Per gross of boxes Per gross of boxes Per gross of 100 matches Per 1000 matches	Shs.3 Shs.6 Shs.3 Cts.25
161	Models, scale or working, and plaster and similar advertising models, but not including toys or dressmakers', hairdressers' or similar display models		Free

APPENDIX III

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CLASS XIII.—MISCELLANEOUS—(continued)

Item.	Article.	Duty.
162	Museum and natural history exhibits and specimens for public museums or for scientific purposes	Free
163	Official, military and naval stores and goods imported by civil, military and naval officers—	
	(a) Goods imported by the Governor for his use	Free
	(b) Baggage, equipment and stores imported by the Inspector-General, K.A.R., or his staff officer for the use of the said officers or either of them whilst travelling on duty	Free
	(c) Goods imported by or consigned direct to officers or men on board vessels of His Majesty's Navy for their personal use or consumption on board such vessels	Free
	(d) Goods imported for His Majesty's land or sea forces in the Territory, on satisfactory proof to the Comptroller of Customs that they have been imported solely for such purpose and are the property of His Majesty	Free
	(e) Goods imported by or purchased prior to clearing through the Customs by, or for the use of, the Government of any British territory in East Africa or the Kenya and Uganda Railways and Harbours Administration	Free
	(f) Officers' uniforms, accoutrements and equipment—	
	(i) The uniform of a naval, military or civil Government officer, including the necessary arms, badges and equipment thereto	Free
	(ii) The camp furniture, fittings and equipment of officers in the	

CLASS XIII.—MISCELLANEOUS—(continued)

Item.	Article.	Duty.
	service of the Government, namely, in respect of each officer for each normal tour of service, one tent, table, chair, bed, mattress, bath and canteen, and, in respect of each officer, during his total service in the Territory, one rifle, one shotgun, one revolver, and 300 rounds of ammunition	Free
	(g) Regimental plate, furniture and other mess fittings, the property of a regimental mess, or the joint property of the officers of a regimental mess . . .	Free
	(h) Goods imported with the sanction of the Governor by Boundary or other Special Commissioners and their assistants for their private use while executing their duties . . .	Free
	(i) Goods imported for the official use of Trade Commissioners who are not engaged in, or connected with, any other business or profession in the Territory	Free
	(j) Machinery, plant, materials and rolling stock imported, or purchased prior to clearing through the Customs, by an individual or firm under contract to the Government, where such exemption from Customs duty forms part of the terms of the contract . .	Free
164	Packing materials: metal drums, empty, tin plates and other materials not specially provided for, imported for the packing for wholesale distribution or export of oil, kerosene or motor spirit, or of goods the product of agricultural, manufacturing or in-	

CLASS XIII.—MISCELLANEOUS—(continued)

Item.	Article.	Duty.
165	dustrial operations within the Territory Rifles, and parts of such rifles, imported into the Territory by members of any Rifle Association or Club recognized by the Government: Provided that such rifles and parts are imported solely for use by the importers in connexion with their duties as members of such Association or Club, and that satisfactory proof to that effect is produced to the Comptroller of Customs	Free
166	School stationery, instruments, appliances and similar requisites imported by or on behalf of a recognized educational institution solely for purposes of tuition	Free
167	Samples and miscellaneous articles not imported as merchandise which the Comptroller of Customs shall decide to be of no commercial value	Free
168	Scientific apparatus and instruments, for laboratory use, scientific observation or record, or for the control of manufacturing operations	Free
169	Ships, launches, lighters, boats and barges, imported complete or in sections; parts and accessories thereof, not including rope, canvas in the piece, cordage or similar running stores, or batteries, magnetos or sparking plugs Provided that when condemned, or handed over to be broken up, duty shall be paid to the Customs on the hull, parts and fittings according to the tariff that may then be in force.	Free
170	Surgical and dental instruments and appliances; instruments and appliances used in the diagnosis or treatment of diseases or affections of the human or animal body	Free
171	Uniforms and equipment imported by or on behalf of the Boy Scout,	

CLASS XIII.—MISCELLANEOUS—(continued)

Item.	Article.		Duty.
172	Girl Guide or other similar Association	<i>Ad valorem</i>	Free
173	Window glass substitutes		10 per cent
	Works of art (painting, sculpture and the like), imported for permanent public exhibition		Free

CLASS XIV.—GENERAL

Item.	Article.		Duty.
174	All goods, ware and merchandise, not provided for under any other heading in the Tariff or under any special law relating to the Customs	<i>Ad valorem</i>	20 per cent

APPENDIX IV

MAIN ROADS: REPORTS AND PROFILES

Reports and Profiles of the following Main Roads will be found at the back of this Handbook :

1. Dar es Salaam—Morogoro.
2. Kilosa—Handeni.
3. Handeni—Tanga, and Tanga—Pangani.
4. Korogwe—Moshi.
5. Tanga—Kenya Border.
6. Dodoma—Iringa.
7. Iringa—Igawa.
8. Igawa—Mwenzo.
9. Dodoma—Kondoa-Irangi.
10. Kondoa-Irangi—Arusha.
11. Arusha—Kenya Border.
12. Arusha—Moshi—Taveta.
13. Kilosa—Iringa.
14. Tabora—Shinyanga.
15. Shinyanga—Mwanza.
16. Tinde—Kahama.
17. Kahama—Biharamulo.
18. Biharamulo—Bukoba.
19. Bukoba—Uganda Border.
20. Lindi—Masasi.
21. Masasi—Tunduru.
22. Tunduru—Songea.

APPENDIX V

DISTRICT ROADS

EASTERN PROVINCE

Description of Road.	Mileage.
Kilosa—Ifakara (Section Uleia to Ruaha River) (Mahenge Boundary)	59
Dar es Salaam—Bagamoyo	42
Kola—Utete as far as Maneromango	22
Morogoro—Mlali	14
Mikesse—Kissaki	100
Dar es Salaam—Rufiji border, via Vikindu and Mikere	51
Mkamba—Kisiju, via Mikere	25
Maneromango—Utete	70
Mlali—Mgeta	10
Mlali—Melela	13
Ngerengere—Magogoni, via Tununguo	40
Morogoro—Dihombo	43
Kilosa—Rudewa, via Ilongo	12
Kilosa—Chanzuru	7
Utete—Kikale, via Muinja River	47
Kikale—Kibiti	23
Muinja River—Mohoro, via Ndundu and Kilindi	18
Mohoro—Tawi, via Nyambawara	30
Utete—Mpanga, via Mtanza and Nyakisiku	63
Bagamoyo—Soga	38
Bagamoyo—Ngerengere	70
Bagamoyo—Sadani	47
Sadani—Mbwewe	45
Bagamoyo—Kwa Dirima	66
Simbo—Masugulu	8
Kivugo—Kidugallo	39
Mzenga—Ruvu	12
Mkamba—Kissangere, via Titu	28
Utete—Tawi	27
Kisiju—Kitomondo	13
Bagamoyo—Pongwe—Mbwewe	90

CENTRAL PROVINCE

Description of Road.		Mileage.
Gulwe—Mpwapwa	. . . . .	10
Singida—Itigi	. . . . .	72
Dodoma—Mpwapwa	. . . . .	75
Dodoma—Bahi	. . . . .	35
Bahi—Kinyamba	. . . . .	25
Mile 14 on the Dodoma—Iringa Road—Mvumi	. . . . .	10
Mile 18 on the Dodoma—Iringa Road—Mwitikira	. . . . .	12
Kikombo—Handali	. . . . .	9
Kikombo—Nsanga	. . . . .	15
Gulwe—Lukole	. . . . .	12
Dodoma—Mpwapwa to Mlali, via Sagala	. . . . .	35
Singida—Mbulu (to border)	. . . . .	30
Singida—Kondoa	. . . . .	87
Singida—Mission	. . . . .	13
Issuma—Ilangali—Saranda	. . . . .	32
Singida—Mkalama	. . . . .	54
Singida—Sekenke, via Iramba Plateau	. . . . .	75
Mile 35 on the Singida—Sekenke Road—Iramba Plateau	. . . . .	22
Mkalama—Sekenke	. . . . .	40
Kondoa—Kibaya to border of Northern Province	. . . . .	40
Kondoa—Saranda—Kilimatinde	. . . . .	108
Manyoni—Kilimatinde	. . . . .	14
Kilimatinde—Bahi	. . . . .	36
Manyoni—Igumira (Kiwere)	. . . . .	165
Manyoni—Isseke, via Itetema	. . . . .	62
Msingi—Sekenke	. . . . .	48
Kolo—Kikore to border of Northern Province	. . . . .	48
Mtiwe—Sanza	. . . . .	34
Manyoni—Isuna	. . . . .	30
Bwaga—Hogoro	. . . . .	18
Dodoma—Kondoa to Haneti and Itisso	. . . . .	20
Msagali—Kambi	. . . . .	8

NORTHERN PROVINCE

Arusha—Longido	. . . . .	70
Moshi—Arusha Road—Engare Nairobi	. . . . .	33
Moshi—Taveta Road—Old Moshi	. . . . .	2
Moshi—Taveta Road—Marangu	. . . . .	10
Moshi—Taveta Road—Himo Siding	. . . . .	5
Moshi—Taveta Road—Arusha Chini—Kahe	. . . . .	22
Moshi—Taveta Road—Uru	. . . . .	7
Moshi—Taveta Road—Kibosho	. . . . .	10

NORTHERN PROVINCE—*continued*

Description of Road.	Mileage.
Moshi—Arusha Road—Kindi	6
Moshi—Arusha Road—Nduruma	5
Moshi—Arusha Road—Machame	10
Moshi—Engare Nairobi Road—Masama	8
Boma—Ngombe—Kware	6
Moshi—Taveta Road—Kuruwa	8
Moshi—Taveta Road—Kilema	8
Arusha—Dodoma Road (Mile 16)—Mondul	10
Arusha—Moshi Road (Mile 8)—Nduruma	6
Arusha—Moshi Road (Mile 13)—Ngongongare	10
Arusha—Longido Road (Mile 9)—Engare Nanyuki	30
Arusha—Engare Motonji	7
Mbugwe—Mbulu	25
Mbulu to Singida border	65
Dongobesh—Dareda	25
Dongobesh—Mkalama to boundary of Central Province	30
Babati—Dareda	20
Dareda—Basotu	60
Moriji—Kibirashi	90
Longido—Ngassera	25
Arusha Chini—Kibaya	170
Loliondo—Arusha, with branch to Ngaruka	150

IRINGA PROVINCE

Tukuyu—Mwaya (Lake Nyasa)	39
Mbalizi—Tukuyu	34
Ilongo—Tukuyu	47
Ikwate—Njombe	42
Malangali to junction with main road	8
Tukuyu—Massoko	12
Iringa—Dabaga Settlement	33
Dabaga Road (Mile 20)—Nguruhe	18
Ulete (on Malangali Road)—Nguruhe	25
Malangali Road (Mile 70)—Mufindi	26
Njombe—Mfrika	54
Njombe—Mwakete	45
Njombe towards Songea	32
Mdandu—Igawa	44
Mbalizi—Igalula Mission	35
Mbozi—Ithaka—Mkoma	40
Tukuyu—Mwakeleli Mission	20
Mwaya—Ngana Cement Works	18

IRINGA PROVINCE—*continued*

Description of Road.	Mileage.
Tukuyu—European Settlements	15
Iringa—Mwenzo Main Road—Malangali	10
Mufindi Settlement Roads	50
Balamaziwa—Malangali	10
Mwakete—Madehani	28
Mwakete—Near Magoye	25

TABORA PROVINCE

Bukeni—Ibologero	46
Pigawasi—Ndala	14
Luhumbo—Luhumbo Station	2
Tabora—Kahama (direct)	87
Ibologero—Sakamaliwa	56
Ibologero—Nyawa—Ndala	45
Ibadakuli—Usogore Trade Centre	3
Ibadakuli—Negezi—Kisapu (Uduhe)	36
Ibadakuli—Ngunga	10
Tabora—Uramba—Ushetu	90
Kahama—Uyogo	48
Tabora—Mgulwe (Ugalla River)	96
Kahama—Itaranganya—Mlote	70
Tabora—Usoke	46
Tutubu—Sikonge	10
Ndala—Wembere	56
Bulunde—Itobo—Kigahumo	36
Ndala—Puge	7
Sikonge—Ipole—Nkululu	80
Tabora—Mwanza Road—Wistereja—Seke Station—Bugoro Trade Centre	14

TANGA PROVINCE

Muhesa—Amani	24
Tanga, via Moa to Kenya border—Mwakijembe	14
Amboni (Mile 6 on above Road)—Bwiti via Gombelo and Malamba	27
Gombero—Muyanzani	9
Moa—Tanga Road (Mile 19)—Mkinga	5
Muhesa—Lewa	12
Muhesa—Amani Road (Mile 2½)—Magrotto Hill	6
Ngomeni—Sigi Segoma (Sigi River)	17
Ngomeni—Paramba	12
Pongwe—Tongoni	10

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TANGA PROVINCE—*continued*

Description of Road.	Mileage.
Mwakidila—Raskazone	7
Lushoto—Malindi—Mlalo	31
Lushoto—Shume	23
Lushoto—Shume	18
Mombo—Lushoto Road—Bumbuli	20
Soni—Bumbuli via Sakarrani	8
Mombo Road—Gare	18
Korogwe—Sakarre	18
Sakarre—Bumbuli	18
Korogwe—Vugiri	18
Vugiri—Sakarre	45
Korogwe—Bwiti	10
Bumbuli—Mazumbai	30
Mombo—Mkomasi	62
Mkomasi—Same	18
Mkomasi—Same Road—Mnazi	14
Lushoto—Kwai	64
Pangani—Handeni	30
Mgambo—Mkata	20
Pangani—River Msangasi	10
River Msangasi—Mkwaja	11
Pangani—Tanga Road—Madanga	39
Bushiri Factory—Halle	15
Handeni—Kwamkoro	62
Handeni—Kibarashi (Kondoa Boundary)	20
Mile 29 on above road—Kilindi	19
Mile 28 on above road to Kilwa	14
Tanga—Sigi	

KIGOMA PROVINCE

Kigoma—Ujiji	5
Uvinza—Kasulu	45
Kigoma—Bukoba Road as far as Bukoba boundary	176
Sumbwe—Kungwe	45
Kipili—Sumbawanga	82
Namanyere—Manga—Rungwa—Nyonga—Mgulwe	175

LINDI PROVINCE

Lindi—Mkoe	38
Mtange—Mbwenkuru (Kilwa—Lindi Road)	40
Kizimbani—Mchinga	15
Mingoyo—Mikindani	46
Kitunda—Sudi	22
Mtama—Newala	58

LINDI PROVINCE—*continued*

Description of Road.						Mileage.
Ngongo—Kiwawa	.	.	.	.	.	53
Narunyu—Ngaugamara	.	.	.	.	.	21
Kizimbani—Nanguru	.	.	.	.	.	9
Kihanga—Sudi	.	.	.	.	.	10
Chigugu—Chiwata—Ngaga	.	.	.	.	.	33
Kitanguli—Ngomano	.	.	.	.	.	40
Nauros—Lukwika	.	.	.	.	.	22
Kilwa—Liwale	.	.	.	.	.	158
Liwale—Masasi	.	.	.	.	.	115
Ruponda—Mandawa	.	.	.	.	.	63
Tunduru—Namasakata	.	.	.	.	.	10
Tunduru—Songea Road—Kandulu's	.	.	.	.	.	8
Sasawara River—Gwaya's	.	.	.	.	.	20
Tunduru—Sasawara via Malipas	.	.	.	.	.	60
Tunduru—Main Road—Mlenje	.	.	.	.	.	12
Mikindani—Newala	.	.	.	.	.	90
Newala—Masasi	.	.	.	.	.	45
Newala—Masasi Road—Luatala	.	.	.	.	.	9
Mahuta—Kitangari	.	.	.	.	.	15
Mikindani—Rovuma—Kihamba	.	.	.	.	.	42
Mikindani—Kisiwa—Sudi Bay	.	.	.	.	.	13
Ndubwe—Kitere	.	.	.	.	.	15
Mbate—Njinjo	.	.	.	.	.	21
Kilwa—Kibata	.	.	.	.	.	50
Mbemburu—Mtandawala (Lindi—Kilwa Road)	.	.	.	.	.	47
Mihumo—Kipere Juu	.	.	.	.	.	14
Kipere Chini—Omari Magoya	.	.	.	.	.	60
Ruhu Chini—Ongai	.	.	.	.	.	24
Liwale Boma—Mbwemkuru River	.	.	.	.	.	53
Mperembe's—Njenje River	.	.	.	.	.	20
Liwale Boma—Mkangiras	.	.	.	.	.	72
Liwale Boma—Madaba	.	.	.	.	.	94
Liwale—Mbindira	.	.	.	.	.	56

MAHENGE PROVINCE

Kilosa—Ifakara Road, Section of Ifakara to Ruaha River (boundary of Eastern Province)	.	.	.	.	.	45
Ifakara—Mahenge	.	.	.	.	.	51
Mahenge—Songea	.	.	.	.	.	247
Mahenge—Mkasu	.	.	.	.	.	77
Songea—Lukumburu	.	.	.	.	.	80
Songea—Mbamba Bay	.	.	.	.	.	71
Likuyu—Manda	.	.	.	.	.	55

MWANZA PROVINCE

Description of Road.	Mileage
Mwanza—Nassa	59
Mabuki—Malampaka	22
Misungwe—Nyambiti	25
Nassa—Musoma	90
Nassa—Shanwa	91
Malampaka—Mbaragani—Lalaga	38
Nyamtimba—Misungwe	5
Musoma—Kenya border	120
Mabuki—Kabale	15
Manthare—Nyanguge	12
Mwanza—Nyambiti—Malampaka	67
Mwanza—Igombe	12
Karumwa—Nyamtukusa	28
Usagara—Bukumki Station	6
Nansio—Bugololo	17
Nansio—Guta	41
Baridi—Guta	7
Iramba—Ikongoro	16
Musoma—Majita	35
Kinesi—Tarime	45
Kinesi—Shirati	34
Butiama—Ngasirori	7
Malampaka—Shanwa—Luguzu	38
Ngudu—Bukwimba	14
Tabora—Mwanza Road, just south of Runere—Nyahonge	10

BUKOB A PROVINCE

Biharamulo—Nyamirembe Bay	34
Kyaka—Lujebe—Kyerwa	77
Katoju—Kaibanja	20
Bukoba—Lubafu	26
Muhutwe—Kamachumu	15
Kamachumu—Nshamba	12
Katale—Rubungo	13
Nshamba—Rubungo	11
Katoma—Kigarama	21
Lusahunga—Nyamiaga	89
Nyamishere—Kiziramuyaga	9
Nyankanazi—Nyantwiga	24
Muhesa—Nzeza	16
Kanazi—Ibwera	12
Ibwera—Kaibanja	10
Bukoba—Kanyangereko	6

APPENDIX VI

ABBREVIATED OFFICIAL TELEGRAPHIC ADDRESSES

Department.	Title.	Abbreviated Address.	Station.
Administrator-General	Administrator-General	INTESTATE	Dar es Salaam
	Registrar-General of Marriages, Births and Deaths	ARCHIVES	Dar es Salaam
	Registrar of Companies	RECEIVER	Dar es Salaam
	Registrar of Trade-Marks		
	Official Receiver in Bankruptcy	AGRICULTURE	Morogoro
Agriculture . . .	Director	SENAGRIC	Mwanza, Lushoto and Lindi
	Senior Agricultural Officers	DISTAGRIC	All stations
	District Agricultural Officers	ENTOMOLOGIST	Morogoro
	Entomologist	MYCOLOGIST	Morogoro
Audit	Mycologist	AUDITOR	Dar es Salaam
	Auditor	AUDIT	Tanga
	Assistant Auditor	CUSTOMS	Dar es Salaam
Customs	Comptroller of Customs	CUSTOMS	All Customs stations
	Officers in Charge of Customs	EDUCATION	Dar es Salaam
Education	Director	HEADMASTER	Bukoba, Dar es Salaam, Malangali, Moshi, Mpwapa, Mwanza, Tabora and Tanga
	Headmasters		All stations
		EDSEC	Dar es Salaam
Electricity	Educational Secretaries	SWITCH	Dar es Salaam
Enemy Property	Chief Electrical Engineer	CUSTODIAN	Dar es Salaam
Forests	Custodian	FORESTS	Lushoto
	Conservator	ACFOR	All stations
Game Preservation	Assistant Conservators	SCANTLING	All stations
	Forest Officers	GAME	Kilosa
Game Warden	Game Warden	GAME	All stations
Game Rangers	Game Rangers	GEOLOGY	Dodoma
Geological Survey	Director	GEOLOGY	Nearest telegraph office
	Officers of the Department when travelling	GOVERNOR	Dar es Salaam
Governor	The Governor	REGISTRAR	Dar es Salaam
Judicial	Registrar of the High Court	REGISTRAR	Tanga and Mwanza
	District Registrars	MAGISTRATE	Arusha, Dar es Salaam, Mwanza and Tanga
	Magistrates	SCRUTATOR	Morogoro
		REFEREE	Arusha, Iringa, Kilosa, Muhesa and Tanga
Labour	Commissioner	LANDS	Dar es Salaam
	Labour Officers	DOCUMENTS	Dar es Salaam
Land	Land Officer	CIRCENSES	Nearest telegraph office
	Registrar of Documents	ATTORNEY	Dar es Salaam
	Land Development Survey	SOLICITOR	Dar es Salaam
Law Officers	Commissioner	PROSECUTOR	Dar es Salaam
	Attorney-General		
	Solicitor-General		
	Crown Prosecutor		

ABBREVIATED OFFICIAL TELEGRAPHIC ADDRESSES—*continued*

Department.	Title.	Abbreviated Address.	Station.
Legislative Council . Medical and Sanitation Services	Clerk of the Council	CLESCO	Dar es Salaam
	Director	PRIMED	Dar es Salaam
	Senior Medical Officers, Medical Officers and others in medical charge of stations	MEDICAL	All stations
	Senior Health Officers and Health Officers	HEALTH	Arusha, Bukoba, Dar es Salaam, Iringa, Lindi, Moshl, Mwanza, Tabora, Tanga
Military	Dental Surgeon	DENTAL	Dar es Salaam and Tanga
	Medical Officer in Charge, Maternity and Child Welfare, Kahama	MATCHWELL	Kahama
	Deputy Director of Laboratory	LABORATORY	Dar es Salaam
	Officer in Charge, Lymph Institute, Mpwapwa	LYMPH	Mpwapwa
	Sleeping Sickness Officers	TRYPS	All stations
	The Officer Commanding, Southern Brigade, King's African Rifles	KARSBRIG	Dar es Salaam
	Officer Commanding 6th King's African Rifles (Headquarters)	KARSIX	Dar es Salaam
	Officer Commanding 6th King's African Rifles (Detachments)	KARSIXDET	Arusha and Mahenge
	Officer Commanding 2nd King's African Rifles	KARTU	Tabora
	Officer Commanding 1st King's African Rifles (Detachments)	KARWUNDET	Masoko, Songea
Mines	Commissioner	MINES	Dar es Salaam
Native Affairs	Inspectors and Assistant Inspectors of Mines	MINING	All mining stations
	Secretary for Native Affairs	NAFFAIRS	Dar es Salaam and all other stations when travelling
Police and Prisons	Commissioner	CRIME	Dar es Salaam
	Police Officers	POLICE	All stations
	Pay and Quartermaster	QUARTERPAY	Dar es Salaam
	Principal Immigration Officer	IMMIGRATION	Dar es Salaam
Posts and Telegraphs	Immigration Officers	IMMIGRANT	All stations
	Officer in Charge, Police Training Depot	TRAINING	Morogoro
	Officer in Charge, Finger Prints Bureau	FINPRINT	Dar es Salaam
	Postmaster-General	POSTGEN	Dar es Salaam
	Surveyors	POSTEL	Dar es Salaam, Tabora and Tanga
Provincial Administration Public Works	Postmasters	POSTS	All stations
	Chief Telegraph Engineer	CHIEFTELS	Dar es Salaam
	Chief Accountant	STAMPS	Dar es Salaam
	Chief Storekeeper	POSTORES	Dar es Salaam
	Provincial Commissioners	PROVINCES	All stations
	District Officers	POLITICAL	All stations
	Director	STRUCTURE	Dar es Salaam
	Executive Engineer	WORKS	Dar es Salaam
	Divisional officers in other Stations	WORKS	All stations
	Road Engineers and Assistant Road Engineers	ROADS	Nearest telegraph office
Railways	Chief Storekeeper	MATERIALS	Dar es Salaam
	General Manager	RAILWAYS	Dar es Salaam
	Chief Accountant	RAILWAYS	Dar es Salaam

ABBREVIATED OFFICIAL TELEGRAPHIC ADDRESSES—*continued*

Department.	Title.	Abbreviated Address.	Station.
Railways—continued	Officer in Charge Branch Accounts Office	ACCOUNTS	Tanga
	Chief Engineer	ENGINEER	Dar es Salaam
	Chief Mechanical Engineer	MECHANICAL	Dar es Salaam
	Traffic Manager	TRAFFIC	Dar es Salaam
	District Traffic Superintendent	TRAFFIC	Tanga
	Chief Storekeeper	STORES	Dar es Salaam
	District Storekeeper	STORES	Tabora
	Marine Superintendent	MARINE	Dar es Salaam
	Port Officers	PORTOFF	Kigoma and Tanga
	District Engineers	DISTRICT	Tabora and Tanga
	District Locomotive Superintendent	LOCOMOTIVE	Dar es Salaam, Tabora and Tanga
Secretariat . . .	Chief Secretary	CHIEF SECRETARY	Dar es Salaam
Survey . . .	Director	SURVEYS	Dar es Salaam
Tanganyika Trade and Information Local Advisory Committee	Chairman	TATRNLACO	Dar es Salaam
Transport . . .	Transport Officer	TRANSPORT	Dar es Salaam
Treasury . . .	Treasurer	TREASURER	Dar es Salaam
	Currency Officer	EASTAFPCOIN	Dar es Salaam
	Treasury Officer	TREASURY	Mwanza, Tabora and Tanga
Veterinary . . .	Director of Veterinary Services	CIVET	Mpwapwa
	Veterinary Pathologist	PATHOLOGIST	Mpwapwa
	Senior Veterinary Officers and Veterinary Officers	VETERINARY	All stations
	Stock Inspectors	STOCK	All stations
Conference of East African Governors	Secretary of the Conference	CONFGOV	Nairobi
High Commissioner for Transport, Kenya and Uganda	High Commissioner	HIGHCOMA	Nairobi

APPENDIX VII

REGISTERED MEDICAL PRACTITIONERS IN TAN- GANYIKA (EXCLUDING THOSE IN GOVERNMENT SERVICE)

Full Name.	Address.	Qualification.	Date of Qualification.
Dulcie S. Adkins ¹	c/o The Universities Mission to Central Africa, Korogwe	M.B.C.S. (Eng.) L.R.C.P. (Lond.)	1921
Mrs. Shiona Alexa Aitken	Tanga	M.B., B.S. (Lond.)	
Elvidio Pereira Andrade	Moshi	M.B., Ch.B. (Glas.)	1924
James McKillican Clark	Kabola, Bukoba	M.B., B.S. (Bombay)	1921
		M.B., Ch.B. (Aberd.)	
Diogo Caetaninho D'Almeida	Tabora	D.T.M. (Liv.)	1906
Najmuddin K. Gangriwala	Dar es Salaam	M.B., B.S. (Bombay)	1925
Arthur Gonsalves	Tanga	M.B., B.S. (Bombay)	1923
Catherine Elizabeth Hignell	Dodoma	M.B., B.S. (Bombay)	1917
		M.R.C.S. (Eng.)	
Miss Mary Muriel Griffin Iles ¹	Masasi, Lindi	L.R.C.P. (Lond.)	1927
		B.S. (Lond.)	1899
William John Jago	Mbulu	M.D. (Lond.)	1901
		M.R.C.S. (Lond.)	
Horbart Clemens Johnson ¹	Mkalama	L.R.C.P. (Lond.)	1907
Sri Kishan Kapur	Dar es Salaam	L.M.S.S.A. (Lond.)	1928
		L.D.S. (Edin.)	1927
		B.Sc.	1922
		L.R.C.P., L.R.C.S. (Edin.)	1928
Arthur James Keevil ¹	Sikonge, Tabora	L.R.F.P. & S. (Glas.)	1928
		M.B., Ch.B. (Bristol)	1923
		M.R.C.S., L.R.C.P.	
Daisy Liddiard Longland	Vugiri, Tanga	D.T.M. & H. (Eng.)	1922
		B.A. (Lond.)	
Antonio Jose Machado	Dar es Salaam	M.B., Ch.B. (Edin.)	1910
Sultan Bakhsh Malik	Dar es Salaam	M.B., B.S. (Bombay)	1922
		M.R.C.S. (Eng.)	1925
		L.R.C.P. (Lond.)	1925
Miss Janet Marr Murray ¹	Msalabani, Mueesa, Tanga	D.T.M. (Liv.)	1926
		M.A. (Edin.)	1901
		Ch.B. (Edin.)	1906
		M.D. (Edin.)	1924
John Vincent Nazareth	Tanga	M.B., B.S. (Bombay)	1918
John Noronha	Dar es Salaam	M.B., B.S. (Bombay)	1912
		D.P.H. (Cambridge)	1914
		D.T.M. (Liv.)	1913
		L.M.R.C.P.I.	1915
Robert Francis Noronha	Dar es Salaam	M.B., B.S. (Bombay)	1919
A. H. Spencer Palmer	Moshi	L.D.S., R.C.S. (Eng.)	1911
Edmund Stuart Palmer ¹	Mueesa, Tanga	M.B., Ch.B. (Edin.)	1882
Manilal Shankerbhai Patel	Dar es Salaam	M.D., C.M. (Canada)	1926
Abilio Francisco Bernardo Pinto	Mwanza		
Mohamed Ali Rana	Dar es Salaam	M.B., B.S. (Bombay)	1925
		M.R.C.S. (Eng.)	
Syed Saadullah Shah	Mwanza	L.R.C.P. (Lond.)	1924
Martha Stennesbeck ¹	Ndanda, Lindi	M.B., B.S. (Lahore)	1926
Miss Catherine Frances Taylor ¹	Lindi	L.M.S.S.A. (Lond.)	1928
		M.B., B.S. (Lond.)	1925
		M.R.C.S. (Eng.)	
		L.R.C.P. (Lond.)	
		D.T.M. (Liv.)	
Cyril Augustus Wallace ¹	Kongwa	M.B., B.Ch. (Belfast)	1922

¹ Attached to Missionary Societies.

APPENDIX VIII

THE GAME PRESERVATION ORDINANCE

(Amended to 15th April, 1930)

PRELIMINARY

1. This Ordinance may be cited as the Game Preservation Short title. Ordinance.

2. In this Ordinance unless the context otherwise requires : Interpreta-
tion.
“Animal” includes birds, reptiles, fish and every kind of vertebrate animal, and the young thereof, and the eggs of birds, reptiles and fish.

“Game” or “Game Animal” means any animal, not being domesticated, which is specified in any of the first five Schedules hereto or any amendment or alteration thereof, and, during a close season, any animal which is forbidden to be hunted during such season.

“Trophy” means ivory, and any horn, head, tusk, bone, hoof, skin, feather, or specimen, or any portion of such parts of any game, or, if so expressed, of any animal, whether game or not, and includes any egg or nest of any game bird, or, if so expressed, of any bird, whether game or not.

“Ivory” means any tusk of elephant, or tooth of hippopotamus.

“Hunting” includes killing, pursuing, fishing for, injuring, capturing, shooting at, robbing of eggs, nest, or young, disturbing or molesting by any method.

“Kill” includes take and capture.

“Buy”, “sell”, “purchase” and “sale” include barter.

“Native” means any member of an African race and includes a Swahili and a Somali.

“Director” means the officer for the time being in charge of the Game Department.

“Game Ranger” means the Game Warden and every European member of the Game Department, and includes an honorary Game Ranger.

“Authorized Officer” means any administrative officer, whether in charge of a district or sub-district or not, and any Magistrate, Game Ranger, European Customs Officer, European Police Officer and European Forest Officer.

“Honorary Game Ranger” means any person, not being a member of the Game Department, appointed by the Governor to discharge the duties of a game ranger.

“Prescribed” means prescribed by this Ordinance or by regulations made thereunder.

“Regulations” means regulations made under a power conferred by this Ordinance.

“Professional Hunter” means any person, not being a native, who for reward directly assists any person in hunting game.

POWER TO MAKE REGULATIONS

Power to make regulations for the purposes of game preservation.

3. Subject to the provisions of this Ordinance, the Governor may from time to time, by order published in the *Gazette*, make regulations, to be applicable either to the whole Territory or to any area thereof, as to all or any of the following matters, namely:

- (a) Prohibiting, restricting, and regulating the hunting or photographing of any animal or, in any specified locality, of all animals.
- (b) Prohibiting, restricting, or regulating any method or means of hunting or photographing, and the use for hunting of any weapons, material, instruments, or things, and authorizing the seizure of weapons, material, instruments, or things of which the use for hunting or photographing is for the time prohibited, restricted, or regulated.
- (c) Prescribing close seasons within which it shall not be lawful to hunt all or any particular animals.
- (d) Providing for the protection of fish in any stream or waters, and prohibiting, restricting, or regulating any method of hunting fish.
- (e) Allowing and regulating the hunting of game for the purpose of food supply in times of famine or by natives who are habitually dependent for their subsistence on the flesh of wild animals.
- (f) Prohibiting, restricting, or regulating the removal, transfer, sale and purchase of any game, game meat, or trophies, and the manufacture, removal, transfer, sale and purchase of material or things manufactured from any trophy.

- (g) Requiring and regulating the registration, identification and marking of all or any trophies, whether obtained in the Territory or imported, and the issue of certificates of ownership in respect thereof, and the transfer and surrender of such certificates, and prescribing who is to issue such certificates, and what conditions are to be fulfilled precedent to the grant thereof.
- (h) Prohibiting, restricting, or regulating the import or export of game, game meat and trophies, and material or things manufactured from trophies.
- (i) Allowing or regulating the import, export, hunting, possession and sale of game for scientific purposes or domestication, and granting or permitting the grant of exclusive rights for the capture of game for domestication to any person in any specified area.
- (j) Prescribing measures for the control and killing of vermin, and dangerous or destructive animals, and authorizing the payment of rewards for such killing, and defining what animals are to be deemed to be vermin, or to be dangerous or destructive animals.
- (k) Prescribing the duties of game rangers.
- (l) Prescribing the forms, conditions and duration of licences and permits, by whom, to whom, in what circumstances, and on what conditions they are to be issued, the fees to be paid therefor, the registers to be kept by the holders, and the returns to be made thereunder.
- (m) For fully and effectually carrying out and giving effect to the objects and powers of this Ordinance, and for preventing evasions and offences.

GAME RESERVES

4. (1) The areas described in the Sixth Schedule to this Ordinance are hereby declared to be Game Reserves (to be known as Complete Reserves) in which, except as may be otherwise prescribed, no person shall hunt any animal. Game Reserves.

(2) The areas described in the Seventh Schedule to this Ordinance¹ are hereby declared to be Game Reserves (to be known as Partial Reserves) in which, except as may be otherwise prescribed, no person shall hunt game of the species declared by that schedule to be protected in those reserves.

¹ These Partial Reserves have ceased to exist.

(3) The Governor may, if he thinks fit, from time to time, by order published in the *Gazette*, add to or alter the said Sixth and Seventh Schedules as to either the areas described therein or the animals which are not to be hunted therein.

(4) In addition, the Governor may, if he thinks fit, from time to time, by order published in the *Gazette*, declare any area in the Territory to be a Game Reserve (to be designated a Closed Reserve) in which, except as may be otherwise prescribed, no person shall hunt or photograph any animal, and into which no person shall enter except for such purposes and on such conditions as may be prescribed by the order or by any regulation.

(5) Without prejudice to the generality of any other power of making regulations conferred by this Ordinance, the Governor may, with respect to any game reserve, by order published in the *Gazette*, make regulations for the effective administration of the Game Reserve and the protection and preservation of the animals therein, and, in particular, prohibiting, restricting, or regulating—

- (a) The entry into, passage through, and movements in the reserve of persons.
- (b) Camping, squatting, residing, building, cultivating and grazing within the reserve.
- (c) The cutting of trees and the burning of grass and bush in the reserve.
- (d) The carrying and use in the reserve of instruments or equipment for the purposes of hunting or photographing, or of firearms or any weapons.

GAME LICENCES

Prohibition
of hunting
game
without a
licence.

5. (1) No person shall hunt any game unless he holds the appropriate Game Licence authorizing him to do so, and no person shall hunt any game of a species which he is not by his Game Licence authorized to hunt, or kill more game than he is by his Game Licence authorized to hunt.

(2) Provided that regulations under this Ordinance may allow, subject to the prescribed conditions, the killing of any animal in defence of any person or for the protection of property.

Prohibition
of hunting
young of
game.

6. Except as may be allowed by any regulation, no person shall hunt the young of any game animal or any female game animal when accompanied by its young.

Issue of
Game
Licences.

7. (1) Subject to the prescribed regulations, the following licences (in this Ordinance referred to as "Game Licences") may be issued—

- (a) A Visitor's Full Licence and a Visitor's Temporary Licence which shall authorize the killing of the animals specified in the First Schedule hereto.
 - (b) A Resident's Full Licence which shall authorize the killing of the animals specified in the First and Second Schedules hereto.
 - (c) A Resident's Temporary Licence which shall authorize the killing of the animals specified in the First Schedule hereto.
 - (d) An Elephant and Giraffe Licence which shall authorize the killing of the animals specified in the Third Schedule hereto, but, unless otherwise prescribed, shall only be granted to the holder of a Visitor's or Resident's Full Licence.
 - (e) A Resident's Minor Licence which shall authorize the killing of the animals specified in the Fourth Schedule hereto.
 - (f) A Governor's Licence which may be issued subject to the provisions hereinafter contained, and shall authorize the killing of any animal specified in the licence.
- (2) Provided that every Game Licence shall only authorize such killing subject to any limitations or conditions specified in this Ordinance or in the Schedules thereto or in any regulations.
- (3) Except as may be otherwise prescribed:
- (a) No Game Licence shall be issued to a native without the consent of the Governor, who may impose such special conditions as he may think fit.
 - (b) No Resident's Full, Temporary, or Minor Licence shall be issued to any person who does not satisfy the Administrative Officer in charge of the district or sub-district in which he claims to reside that he is a *bona fide* resident in the Territory.
- (4) So much of this Ordinance as relates to a Resident's Minor Licence shall be deemed to have had effect as from the first day of August, 1921, and every such licence issued on or after that day by any administrative officer shall be valid and effective according to its purport, but shall be subject to any regulations (other than a regulation as to the form of licence) which may be made as to a Resident's Minor Licence or as to anything to be done by the holder of such a licence.
8. (1) The Governor may, if for scientific or administrative reasons he thinks it desirable, grant to any person, with or without the Governor's Licence.

out payment of a fee and with or without imposing any conditions, a Governor's Licence to hunt any animal included in the Fifth Schedule hereto, or the young of any game animal, or the female of any game animal when accompanied by its young, or any animal in a Game Reserve or during a close season, or any animal of which the killing is for the time being prohibited, restricted, or regulated, or to allow the holder of any Game Licence to kill or capture additional animals.

Power to
vary
Schedules of
game
animals.

9. The Governor may, if he thinks fit, from time to time, by order published in the *Gazette*, vary any of the first five Schedules hereto, and vary the species and number of animals which may be killed under any Game Licence, either in the whole Territory or any area thereof.

Hunting on
private land.

10. (1) A Game Licence shall not entitle its holder to hunt on private land without the written permission of the occupier.

(2) Any person who, without the written permission of the occupier, hunts any animal upon private land or enters upon private land for the purpose of hunting any animal, or, being on private land for the purposes of hunting any animal, refuses on demand to give his name or address to the occupier of the land or his agent or servant, shall be guilty of an offence against this Ordinance.

PROFESSIONAL HUNTER'S AND TROPHY DEALER'S LICENCE.

Issue of
Professional
Hunter's and
Trophy
Dealer's
licence.

11. (1) Subject to the prescribed regulations, there may be issued

(a) A licence (in this Ordinance referred to as a "Professional Hunter's Licence") which, subject to the prescribed regulations, shall entitle the holder, being a professional hunter, to act as such, and

(b) A licence (in this Ordinance referred to as a "Trophy Dealer's Licence") which, subject to the prescribed regulations, shall entitle the holder to buy and sell trophies.

Prohibition
of acting as a
Professional
Hunter with-
out a licence.
Restriction
on selling or
buying
trophies.

12. No person, not being a native, shall act as a professional hunter unless he holds a Professional Hunter's Licence authorizing him so to act.

13. Except as may be otherwise prescribed, no person shall sell or buy any trophy of any game unless he holds a Trophy Dealer's Licence authorizing him to do so.

PROVISIONS APPLICABLE TO ALL LICENCES

14. No person who has within the previous three years been convicted of an offence against this Ordinance or against chapter seventeen of the Indian Penal Code (relating to offences against property) or whose licence has been cancelled or suspended by the Governor or any court shall be granted any licence under this Ordinance except with the Governor's consent.

15. (1) Subject to any regulations, any officer issuing a licence under this Ordinance may require the applicant to deposit with the issuing officer a sum not exceeding two thousand shillings as security for the due observance and performance of the provisions of this Ordinance and of any regulations.

(2) At the end of two months after the expiration of his licence, there shall be returned to the licensee any balance which may remain after deducting any fines or costs which may have been imposed upon him for a breach of this Ordinance or any regulations and are still unpaid.

(3) Provided that, if it is shown to the satisfaction of any court that any person who has deposited security under the foregoing provisions has committed an offence against this Ordinance and left the Territory with the intention of avoiding being charged or tried, the court may order the whole or such part as it thinks just of the security to be forfeited to the Government.

16. (1) The Governor may at any time, without assigning a reason, suspend or cancel any licence or permit of any description granted under this Ordinance or any regulation, or direct that any licence or permit shall be refused to any applicant.

(2) If any licence is cancelled, then, unless the licensee has been convicted of an offence against this Ordinance, or unless he is convicted of such an offence within two months from the date of cancellation, a proportionate part of the fee paid for the licence shall be repaid.

17. If any person to whom any licence or permit under this Ordinance or any regulation has been refused obtains or attempts to obtain such a licence or permit without previously disclosing the fact of refusal, or if any person knowingly obtains or attempts to obtain any licence or permit under this Ordinance or any regulation to which he is not entitled, he shall be guilty of an offence against this Ordinance, and any licence or permit so obtained shall be void, and any fee paid therefor shall be forfeited.

GOVERNMENT-OWNED GAME AND TROPHIES

Enumeration
of Govern-
ment-owned
game and
trophies.

18. (1) Except as may be otherwise prescribed, the following are the property of the Government—

- (a) Any game which is found dead or which is unlawfully killed, or which has been killed in contravention of any earlier law, or which is killed in pursuance of any regulations authorizing the killing of game without a Game Licence in defence of any person or of property, and any meat or trophy of any such game;
- (b) any elephant tusk weighing less than thirty pounds or such other weight as may from time to time be prescribed, and any part or fragment of such a tusk;
- (c) any ivory or rhinoceros horn which by any regulation is required to be produced for the purpose of being marked for identification, and is not so produced within the prescribed time;
- (d) any imported trophy which by any regulation is required to be produced for the purpose of obtaining a certificate of ownership and is not so produced within the prescribed time; and
- (e) any trophy for which a certificate of ownership is applied or required but refused in accordance with any regulation on the ground of failure to prove that there has been no contravention of this Ordinance or any regulation or any earlier law or regulation in connexion therewith or in connexion with the animal from which it was obtained or, in the case of an imported trophy, on the ground of failure to prove that the trophy was lawfully exported from the country of origin and that all customs regulations have been complied with.

(2) Provided that the Governor may waive the right of the Government in particular cases.

(3) All game, game meat and trophies the property of the Government shall be disposed of in such manner as may be prescribed by regulation, or, in default of such regulation, in such manner as may be ordered by the Governor.

Illegal

possession of
Government-
owned game
and trophies.

19. (1) Except as may be allowed by regulation, no person shall remove, possess, receive, transfer, export, buy, or sell any game, game meat, or trophy which is by this Ordinance declared to be the property of the Government until such game, game meat, or

trophy has been sold or otherwise disposed of by order of the Governor or officers authorized by him.

(2) Whenever a person is charged with contravening this section, it shall be sufficient if the summons or charge alleges that the game, game meat, or trophy is the property of the Government, without giving particulars of the reasons or circumstances whereby it became the property of the Government, and the onus shall then be on the person charged to prove either that he is the holder of a duly issued certificate of ownership thereof, or that the game, game meat, or trophy is not the property of the Government.

PROVISIONS FOR PREVENTION AND DETECTION OF OFFENCES

20. (1) For the purpose of preventing or detecting the commis- Power of
sion of an offence against this Ordinance, any authorized officer interroga-
may without warrant tion, search
and
detention.

- (a) require any person to produce for inspection all or any of the following things which may be in his possession or control, namely, game, game meat, trophies, and material or things manufactured from trophies, and licences, permits, certificates of ownership, and registers issued under or required to be kept by this Ordinance or any regulation, and all documents of any description relating to any game or trophy;
- (b) enter and search any land, building, tent, vehicle, or boat, and open and search any baggage or thing;
- (c) question any person as to any matter in connexion with anything which he can under this section be required to produce, and question in like manner any agent or servant of such person, and require any person, agent, or servant so questioned to sign a written declaration as to the truth of his answers;
- (d) seize any game, game meat, or trophy appearing to the authorized officer to be the property of the Government, and any weapon, instrument, or thing the use of which for hunting or photographing game is for the time being prohibited, restricted, or regulated, and which the authorized officer has reason to suspect has been used or is intended to be used in contravention of any regulation;
- (e) where the authorized officer has reason to suspect that an offence against this Ordinance has been committed, seize any licence, permit, register, document, or thing, whether

of a nature similar to those before enumerated or not, which appears to the authorized officer to be evidence of the commission of the offence;

- (f) arrest and detain any person whom the authorized officer has reason to believe has committed an offence against this Ordinance and is likely, unless arrested, to fail to appear and answer any charge which may be preferred against him, or if the name and address of that person is unknown to and cannot immediately be ascertained by the authorized officer.

(2) Provided that any person detained or things seized under the foregoing powers shall, with all practicable speed, be taken before a magistrate to be dealt with according to law.

(3) And no answer to any question asked under the powers conferred by this section or any written declaration required under such powers shall be admissible in evidence against the person making such answer or declaration unless the court thinks it just that such answer or declaration should be admitted.

(4) Any person who, without reasonable excuse, fails or refuses to produce within a reasonable time anything which under the powers conferred by this section he is required to produce, or fails or refuses to answer any question put to him under the powers aforesaid, or gives any false answer to any such question, or fails or refuses to give a written declaration when so required, or makes any false statement in any such declaration, shall be guilty of an offence against this Ordinance.

Power for
Director to
confer power
of an author-
ized officer on
other per-
sons.

Unexplained
possession
of game or
meat.

21. For the purposes of preventing, detecting, and prosecuting offences against this Ordinance, any person regularly employed in the Game Department may, if specially authorized in writing by the Director, exercise in any specified case all the powers of an authorized officer, whether under this Ordinance or any regulation.

22. (1) If any game, game meat, or trophy is found in the possession or control of any person, then that person, unless he proves that he obtained it lawfully, shall be guilty of an offence against this Ordinance, and be punishable accordingly, and the game, game meat, or trophy shall be deemed to be the property of the Government.

(2) The possession of a freshly killed animal or of the meat or trophy of any such animal shall be *prima facie* evidence against a person charged with an offence against this Ordinance that he himself killed such animal.

PENALTIES AND LEGAL PROCEEDINGS

23. (1) Any person who contravenes any provision of this Ordinance or of any regulation or who fails to comply with any requirement of this Ordinance or of any regulation, or who commits a breach of the conditions of any licence or permit held by him, or who fails to comply with any lawful order given to him under any power conferred by any regulation shall be guilty of an offence against this Ordinance, and any person who attempts to commit or abets such an offence shall himself be guilty of an offence against this Ordinance. Penalties.

(2) Any person guilty of an offence against this Ordinance shall be liable to a fine not exceeding two thousand shillings, or to imprisonment of either description for a term which may extend to six months or to both such fine and imprisonment. Provided that any person guilty of an offence which constitutes a breach of any regulation or of any condition of any permit issued under this Ordinance or any regulation; or disobedience of any lawful order given under a power conferred by this Ordinance or any regulation, where any such regulation, permit or order prohibits, regulates, or restricts the entry into, or the hunting or photographing of game in any area declared a Closed Reserve under sub-section (4) of section 4, shall be liable to imprisonment of either description for a term not exceeding six months without the option of any fine.

24. (1) When any person is charged with an offence against this Ordinance, the court hearing the charge shall, after the persons appearing to be interested therein have been given an opportunity of being heard, order that any game, game meat, or trophy in respect of which any evidence has been given to the court and which the court decides is the property of the Government shall, if in the custody of the court, be handed over to an authorized officer to be disposed of according to law, and, if not in the custody of the court, that it be seized by an authorized officer and be disposed of as aforesaid. Forfeitures.

(2) When any person is convicted of an offence against this Ordinance, the court may, if it thinks fit, order that any game, game meat, or trophy, not being the property of the Government, in respect of which the offence was committed, and also any weapon, instrument, photographic apparatus, motor car, material, or thing found in the possession of the person convicted, the use of which for hunting or photographing game is for the time being

prohibited, restricted, or regulated, and which, in the opinion of the court, has been or was intended to be used in contravention of any regulation shall be forfeited to the Government. Provided that when any person is convicted of an offence of hunting or pursuing game in a motor car or which constitutes a breach of any regulation or of any condition of any permit issued under this Ordinance or any regulation; or disobedience of any lawful order given under a power conferred by this Ordinance or any regulation where any such regulation, permit or order prohibits, regulates or restricts the entry into or the hunting or photographing of game in any area declared a Closed Reserve under subsection (4) of section 4, every weapon, instrument, photographic apparatus, motor car, material or thing found in the possession of the person convicted shall by virtue of such conviction be forfeited to the Crown.

Conduct of prosecutions. 25. The Director or any Game Ranger authorized in writing by the Director, either generally or for any particular case, may conduct or assist in conducting a prosecution for an offence against this Ordinance.

Rewards. 26. The Court may order that a sum not exceeding one-half of any fine imposed be paid to any person not in the service of the Government who has given information leading to the conviction.

THE FIRST SCHEDULE

(VISITOR'S OR RESIDENT'S FULL OR TEMPORARY LICENCE)

Animals of which, in all, including their sub-species, not more than the numbers herein stated may be killed under the authority of a Visitor's or Resident's Full or Temporary Licence.

Provided that, except when one only of a species may be killed, each female killed shall for the purposes of both Full and Temporary Licences count as two animals.

		Number which may be killed under a Temporary Licence.	Number which may be killed under a Full Licence.
1. Black Rhinoceros	<i>Rhinoceros bicornis</i>	0	2
2. Hippopotamus	<i>Hippopotamus amphibius</i>	2	4
3. Roan Antelope	<i>Hippotragus equinus</i>	1	3

(In Tabora or Ufipa districts holders of a Resident's Full Licence may shoot an additional three Roan Antelopes and holders of a Resident's Temporary Licence may shoot an additional two Roan Antelopes.)

		Number which may be killed under a Temporary Licence.	Number which may be killed under a Full Licence.
4. Sable Antelope	<i>Hippotragus niger</i>	2	4
5. Fringe-eared Oryx	<i>Oryx callotis</i>	1	3
6. Topi	<i>Damaliscus corrugum jimela</i>	3	5
7. Wildebeest	<i>Gorgon species</i>	3	
8. Coke's Hartbeest	<i>Bubalis cokei</i>	} Combined 3	20
9. Lichtenstein's Hartbeest	<i>B. lichtensteini</i>		
10. Lelwel Hartbeest in- cluding Jackson's	<i>Bubalis lelwel</i>	2	4
11. Buffalo	<i>Bos caffer</i>	3	6
12. Bushbuck	<i>Tragelaphus scriptus</i>	4	15
13. Situtunga	<i>Tragelaphus spekei</i>	1	2
14. Lesser Kudu (males only)	<i>Strepsiceros imberbis</i>	1	3
15. Greater Kudu (males only)	<i>Strepsiceros strepsiceros</i>	1	2
16. Eland	<i>Taurotragus oryx</i>	2	4
17. Reedbuck	<i>R. redunca and arundinum</i>	} Combined 4	12
18. Mountain Reedbuck in- cluding Chanler's	<i>Oreodorcas fulvorufula</i>		
19. Defassa Waterbuck	<i>Cobus defassa</i>	2	4
20. Common Waterbuck	<i>Cobus ellipsiprymnus</i>	3	6
21. Puku	<i>Cobus vardoni</i>	3	6
22. Kob of remaining species	<i>Cobus kob thomasi, etc.</i>	1	2
23. Red Forest Duiker in- cluding Harvey's	<i>Cephalophus natalensis, sub-species</i>	4	10
24. Abbott's Duiker	<i>Cephalophus spadix</i>		1
25. Blue Duiker	<i>Cephalophus lugens</i>	6	15
26. Common Duiker	<i>Sylvicapra grimmii</i>	4	15
27. Pygmy Antelope or Suni	<i>Neotragus moschatus</i>	6	15
28. Oribi, all species combined	<i>Oribia species</i>	2	6
29. Steinbuck, both species combined	<i>Raphiceros species</i>	3	10
30. Klipspringer	<i>Oreotragus oreotragus</i>	2	4
31. Grant's Gazelle	<i>Gazella granti</i>	4	8
32. Thomson's Gazelle	<i>Gazella thomsoni</i>	4	14
33. Gerenuk (males only)	<i>Lithocranius walleri</i>	1	2
34. Impalla	<i>Aepyceros melampus</i>	4	10
35. Dikdik, all species com- bined	<i>Rhynchotragus species</i>	6	20
36. Common or Quagga Zebra	<i>Equus quagga</i>	3	15
37. Colobus, all kinds com- bined	<i>Colopus species</i>	2	4
38. "Kima" or "Sykes" Monkey	<i>Cercopithecus albogularis</i>	5	10
39. Ostrich	<i>Struthio species</i>	1	2

THE SECOND SCHEDULE

(RESIDENT'S FULL LICENCE)

Animals of which, in addition to those specified in the First Schedule, an unlimited number may be shot under the authority of a Resident's Full Licence:

1. Bushbuck, males.
2. Common Duiker, both sexes.
3. Buffalo and Hippopotamus in areas that may from time to time be defined by the Governor.

THE THIRD SCHEDULE

(ELEPHANT AND GIRAFFE LICENCE)

Animals of which not more than the number herein stated may be killed under the authority of an Elephant and Giraffe Licence.

Two elephants, or, if allowed by regulation, three.

One Bull Giraffe.

No elephants shall be knowingly hunted under the authority of an Elephant and Giraffe Licence unless it has at least one tusk weighing 30 lb. or more or such other weight as may be prescribed by regulation, and any tusk which is found to be less than the weight aforesaid shall be the property of the Government.

Unless otherwise prescribed, an Elephant and Giraffe Licence may be granted only to the holder of a Visitor's or Resident's Full Licence, and, unless otherwise prescribed, no person shall, during the period of his Visitor's or Resident's Full Licence, be licensed to kill more than one giraffe and the number of elephants specified above.

THE FOURTH SCHEDULE

(RESIDENT'S MINOR LICENCE)

Animals of which, in all, including their sub-species, not more than the numbers herein stated may be killed under the authority of a Resident's Minor Licence.

Provided that, except when one only of a species may be killed, each female shall count as two animals.

Hartebeest of all species, and Wildebeest combined . . .	15
Topi	5
Roan Antelope in Tabora and Ufipa districts only . . .	4
Bushbuck	15
Reedbuck, all species combined	8
Waterbuck, both species combined	4
Puku in Mahenge and Rungwe districts	5
Blue Duiker, Common Duiker and Suni, of each . . .	15
Oribi, all species combined	4
Steinbuck and Thomson's Gazelle, of each.	8
Impalla	6
Dikdik	20
Zebra	12
Eland	1
Buffalo	1

THE FIFTH SCHEDULE

(GOVERNOR'S LICENCE)

Animals which may only be hunted under the authority of a Governor's Licence:

1. All Antelopes not specified in the 1st, 2nd, or 4th schedules hereto.
2. All females of Giraffe, Greater and Lesser Kudu, Gerenuk, and Situtunga.
3. Fish-Eagle, Wahlberg's Eagle, Buzzard-Eagle (*Asturina*), Secretary Bird, Ground Hornbill, and any kind of Vulture, Stork (including Marabout), Kestrel, Owl, and Egret, Gorilla and Chimpanzee, Crested Crane.

THE SIXTH SCHEDULE

(COMPLETE RESERVES)

1. KILIMANJARO RESERVE (MOSHI DISTRICT).

The mountain mass of Kilimanjaro bounded by the lower margin of the dense forest belt.

2. MOUNT MERU RESERVE (ARUSHA DISTRICT). (KILIMANJARO.)

The mountain mass of Meru, including the Engurdoto Crater, bounded by the lower margin of the dense forest belt, and including any area lying within the line of beacons marking the forest reserve.

3. NGORONGORO CRATER.

The whole of the Ngorongoro Crater in the Arusha District, as bounded by the rim of the crater, but excluding the land alienated therein which is shown coloured pink on plan No. ⁶ signed by the Director of Surveys which can be seen in the Survey Office, Dar es Salaam.

4. LAKE NATRON GAME RESERVE.

Commencing at a point where the new Longido road from Arusha to Nairobi crosses the boundary of Kenya Colony and Tanganyika Territory between boundary Pillar 42 and 43 the boundary shall follow the western side of the aforementioned road in a southerly direction to a beacon situated on the west side of the road and about 12 miles south of Longido Summit. Thence it shall follow a straight line for a distance of approximately 24 miles in a south-westerly direction to the permanent water-hole in the rock in the bed of the Emugur Oretati watercourse situated near the crossing of the Arusha Engare-Longischo road and the said watercourse. Thence it shall follow a straight line in a westerly direction to the triangulation point at Mboloti situated south-west of the Kitumbeine Mountain. Thence it shall follow a straight line in a westerly direction until it reaches the confluence of the Engare Rangai and the Lemelopa Rivers. Thence it shall follow the left bank of the Engare Rangai River until it reaches the top of the Eastern escarpment of the Rift Valley. Thence it shall follow the top of the said escarpment in a northerly direction to the summit of Kerimani Mountain. Thence it shall follow a straight line in N.N. westerly direction to the triangulation point on the summit of Ol Lengai Mountain. Thence it shall follow a straight line in a N.N. westerly direction to the summit of Mosonik Mountain. Thence it shall follow the top of the escarpment to the triangulation point situated at Kisare. Thence it shall follow a straight line in a N.N. easterly direction to the south triangulation point on the summit of Ol Sambu Mountain. Thence it shall follow a straight line in a north-easterly direction to boundary Pillar 33 of the Kenya Colony and Tanganyika Territory Boundary. Thence it shall follow the said Boundary in a south-easterly direction to the point of commencement.

5. NORTHERN RAILWAY RESERVE (USAMBARA DISTRICT).

Northern boundary: From Same village past the north end of the Kwakoko hill thence to the hill Kitamule, thence to the Pangani River at Marango-Opuni.

Western and Southern boundary: The River Pangani from Marango-Opuni to its bend at Kilometre 190 on the Tanga Railway near Mabirioni. Thence to the top of the southern end of the Pare Mountains.

Eastern boundary: From the last named point along the top of the escarpment northwards, descending finally to the southernmost corner of the plantation (Barry and Taube) behind Makanya and following thence the plantation's south-western and north-western sides to the river, then northwards along the Mwembe River till cut by the Makanya-Same road, then along this road to Same village.

6. SELOUS RESERVE (MAHENGE, MOROGORO AND RUFIJI DISTRICTS).

This consists of the German "Mohoro" and "Mahenge" reserves united.

Northern boundary: From the junction of the Mshindasi stream with the Ruaha River (7 miles below the Kilosa-Mahenge drift) to Maji-ya-Weta Hill. From this point to the top of Kinyanguru Hill and from this point to Lake Mpangasi.

Eastern boundary: From Lake Mpangasi along the old main Dar es Salaam-Mroka road.

Southern boundary: Along the Rufiji River as far as its junction with the Ulanga River.

Western boundary: From the junction of the Rufiji and Ulanga Rivers along the Ulanga to its junction with the Msola River; thence along the Msola as far as the Kilosa-Mahenge road; thence along the Kilosa-Mahenge road as far as the Ruaha River; thence along the Ruaha as far as its junction with the Mshindasi stream.

7. SERENGETI GAME RESERVE (MASWA DISTRICT).

Northern boundary: The Ruwana River from Lake Victoria to its confluence with the Grumeti River, thence the Grumeti River to its confluence with the Orangi River, thence the Orangi River to its confluence with the Makungu River, thence the Makungu River to its crossing with the Mou-Kilimafetha road.

Eastern boundary: The Mou-Kilimafetha road from the Makungu River crossing to the Mbalangeti River crossing.

Southern boundary: The Mbalangeti River from the Moru-Kilimafetha road crossing to Lake Victoria.

Western boundary: The shore of Lake Victoria from the Mbalangeti River to the Grumeti River.

8. LOGI PLAIN RESERVE (MPWAPWA DISTRICT).

Northern boundary: A line from a point where the Changaje River joins the Umerohe River drawn eastwards to the Msaajira Mountain, and thence to the village of Wota.

Eastern boundary: A line from Wota southwards to Itengule and thence through Mperemehe to Rudege village on the Mtindiri River, thence the latter river to its junction with the Greater Ruaha.

Southern boundary: The Ruaha and Kisigo Rivers.

Western boundary: The Umerohe River upstream to its junction with the Changaje.

9. SABA RIVER RESERVE (DODOMA DISTRICT).

Northern and North-eastern boundary: The road from Kwiuru Kwa-Kiromo following the track through Saba Siswa and Kitete to the Myombe River.

Southern and South-eastern boundary: Upstream along the Myombe and Utambe Rivers to Mamumgulu, thence along the track westwards to Isambwa.

Western boundary: From Isambwa northward along the course of the Rungwa River as far as Sisa's. Thence the track to Kwa-Msawira, and thence the track through Kisiwa and Mlangari to Kwikuru Kwa-Kiromo.

10. KATAVI PLAIN RESERVE (UFIPA DISTRICT).

Northern boundary: From the gap where the Mkamba River flows through the hills surrounding the Ktavi Plain near the village of Mkamba to the summit of Mount Nyamba.

Eastern boundary: Following the summit of the escarpment to the point of slope of Mount Galukilo to the summit of Mount Gongwe, thence south to the Chada Swamp and along its eastern side to its southern end.

Southern boundary: From the southern end of the Chada Swamp to the summit of Mount Mbusi.

Western boundary: From the summit of Mount Mbusi following the ridge of the Ugoma Hills to the Mkamba gap.

11. MTANDU RIVER RESERVE (KILWA DISTRICT).

Northern boundary: The Mtandu River.

Eastern boundary: The Singa River.

Southern boundary: The Kilwa-Liwale Road.

Western boundary: The Liwale stream.

12. MTETESI RESERVE (LINDI DISTRICT).

Northern boundary: From its intersection by the Mtetesi River

the Lindi-Kilwa boundary eastwards to the Lumesule River, thence southwards down the Lumesule River to a point due west of the source of the Kihatu River, thence due east to the Kihatu River, thence in an easterly direction along the Kihatu River to its intersection with its tributary the Mbonde stream.

Eastern boundary: From the intersection of the Kihatu River with its tributary the Mbonde stream, thence in a southerly direction following the old cutting until it strikes the Mbangalla River at a point where the old track crosses the Mbangalla River, thence along the Mbangalla to the Lindi-Tunduru road at Mtimbo.

Southern boundary: The Lindi-Tunduru road as far as the Mtetesi.

Western boundary: The Mtetesi River.

13. TSETSE RESEARCH RESERVES (NEAR KONDOA).

(1) From Balangida Lake in the Sambala area of the Kondoa District along the margin of the Mngati Plains eastwards to the southern foot of Ma'angulo Hill; thence following the Kimiti River south-east to its junction with the Bubu River; thence along the Bubu River to its junction with the main Kondoa-Singida road; thence along the main Kondoa-Singida road from its crossing at the Bubu to the District boundary with Singida; thence along the Kondoa-Singida District boundary from its junction with the main road to the Lake Balangida.

(2) From Piennaar's Heights along the road to Galappo to its junction with the Kikore motor road at Hanara; thence along a blazed line due east for approximately six miles to the edge of the great plain; thence along the western edge of the great plain in a southerly direction to the promontory of the escarpment known as Kissesse Point; thence along a blazed line running in the south-westerly direction for one mile to the Kolo-Galappo road; thence along the Kolo-Galappo road as far as Kolo; thence along the main Kondoa-Arusha road to Piennaar's Heights.

THE SEVENTH SCHEDULE

(PARTIAL RESERVES)

NONE

CLOSED RESERVE

The Serengeti Closed Reserve comprising the Musoma District and that part of the Arusha District west of the Rift Wall.

AREA CLOSED TO HUNTING, BUT NOT DECLARED A RESERVE

From new Shinyanga following the railway northward till it cuts the New Shinyanga-Mwanza road; thence that road as far as Bubiki; thence the Seke-Usule road south-westward till it cuts the railway; thence the railway, eastward, to the point of starting.

REGULATIONS

PRELIMINARY

- Short title.** 1. These Regulations may be cited as the Game Preservation Regulations, 1921.
- Interpretation.** 2. In these Regulations, unless the context otherwise requires, expressions defined by the Game Preservation Ordinance shall have the same meanings as in that Ordinance, and that Ordinance is in these regulations referred to as "the Ordinance".

PROHIBITED METHODS OF HUNTING

**Explosives,
aeroplanes,
and traps.**

3. (1) No person shall, without a written permit from the Governor, use any poison or explosive for killing fish.

(2) No person shall pursue game in a motor car or use for hunting game any aeroplane or airship, or any missile containing an explosive, or use any light for the purpose of dazzling game, and no person travelling by train or public passenger boat, whether as a passenger or not, shall fire at any game even when such train or steamer is stationary, and whether he is or is not actually on the train or steamer.

(3) No person shall, without the written permit of an Administrative Officer acting with the sanction of the Director, hunt game by means of nets, gins, traps, snares, pit-falls, poison, or poisoned weapons, or have in his possession any such appliances for the purpose of hunting game. Any such appliances found in the possession of any person without a permit from an Administrative Officer and appearing to have been used or to be intended to be used for the purpose of hunting game may be seized by any authorized officer and taken before a magistrate to be dealt with according to law.

**Dogs and
fire.**

4. No person shall hunt game other than birds and lawfully wounded animals with dogs, or, for the purposes of hunting surround game with fire.

5. Except as authorized by any regulation, no person shall give any native a firearm for the purpose of hunting game without the written permit of the Director. Giving firearms to natives.

GAME AND CLOSED RESERVES

6. No person other than a Game Ranger or Administrative Officer shall, within the limits of any Complete Reserve, carry or have in his possession any instrument or equipment for hunting purposes or any firearm without having previously notified an Administrative Officer or a Game Ranger, and in no case shall any animal be hunted in any Complete Reserve. Firearms.

7. No person shall allow a dog to be in a Complete Reserve without being under proper control, and any Game Ranger or Administrative Officer may shoot any dog found in a Complete Reserve not being under proper control. Dogs.

8. No person shall, without the written permit of an Administrative Officer or a Game Ranger, camp within the limits of a Complete Reserve longer than is necessary for the purposes of his journey. Camping.

8A. (1) No person shall hunt or photograph any game within any Closed Reserve without the written permit (in the form of the Eighth Schedule hereto) of the Provincial Commissioner of the Province in which such Closed Reserve is situated; or of a District Officer to whom power to issue a permit may be delegated as hereinafter provided. Closed Reserves.

(2) Every such permit shall be in addition to any licence or other permit required under the Game Preservation Ordinance or any regulation made thereunder and shall be for such period as the officer issuing such permit may endorse on such permit.

(3) Application for a permit shall be made in person by the applicant to the Provincial Commissioner at the headquarters of the Province, or to a District Officer as provided hereunder.

(4) A Provincial Commissioner may, subject to the approval of the Governor, delegate with or without restrictions his powers to any District Officer within his province, and appoint the District headquarters to be at the place at which an application for a permit may be made.

(5) The Provincial Commissioner or the District Officer when acting as delegate of the Provincial Commissioner may without assigning a reason refuse a permit or may issue a permit subject

to such conditions as he may endorse on such permit. Any refusal to grant a permit shall be subject to appeal to the Governor.

Power to restrict burning, etc.

9. In any Game Reserve, which is not also a Forest Reserve, the Director may prohibit, restrict, or regulate the cutting of trees or burning of grass.

Duty to obey directions of Game Ranger.

10. Every person in a Game Reserve shall obey all lawful directions given by any authorized officer.

Rivers part of reserve.

11. Any river bounding or in a Game Reserve shall be deemed to be part of that Reserve.

Limits of close seasons.

12. From the 15th March to the 15th June in each year (both days inclusive) no person shall hunt any species of duck or goose.

ORDINARY GAME LICENCES

Fees for ordinary game licences.

13. (1) Ordinary Games Licences may be granted by an Administrative Officer at the fees following :

A Visitor's Full Licence . . .	Shs.1500
A Visitor's Temporary Licence . . .	„ 200
A Resident's Full Licence . . .	„ 300
A Resident's Temporary Licence . . .	„ 60
A Resident's Minor Licence . . .	„ 80

(2) The forms of Game Licences are given in the First Schedule hereto.

Grant of Resident's Licences to officers of Navy and Army and officials.

14. A Resident's Full, Temporary, or Minor Licence may be issued in accordance with the provisions of the Ordinance, and also to any commissioned officer in His Majesty's Army or Navy on the active list, or to European Government officials serving in Zanzibar, Kenya Colony and Protectorate, and Uganda.

14A. A Resident's Minor Licence may be issued in accordance with the provisions of the Ordinance to any person who gives proof, to the satisfaction of the Director of Game Preservation, that he intends to remain in the Territory for a period of not less than six months from the date of his application for such licence.

Duration of game licences.

15. (1) A Resident's Full Licence and Minor Licence shall be in force until and including the 31st day of March next following the date of issue.

(2) A Visitor's Full Licence shall be in force for one year from and including the date of issue.

(3) Temporary Licences shall be in force for fourteen days from and including the date of issue.

(4) Not more than one Temporary Licence shall be issued to the

same person in any year ending on the 31st March, and Temporary Licences issued to the same person in consecutive years shall be divided by a period of at least one month.

(5) Except as authorized by any regulation, no person may be granted more than one Game Licence at the same time, and no holder of a full licence or of a minor licence may be granted a temporary licence during the currency of his full or minor licence.

16. If, during the currency of a minor or any temporary licence, or within six months from the date of issue of a Visitor's Temporary Licence, or before the 31st of March next following the date of issue of a Resident's Temporary Licence, the holder is granted a full licence, game killed under the minor licence or temporary licence shall be deemed to have been killed under the full licence, and the amount of game which may be killed under the full licence shall be reduced accordingly, and the fee for the full licence shall be reduced by the amount of the fee paid for the temporary or minor licence. If the full licence is issued during the currency of the minor or temporary licence, the latter licence shall be surrendered at the time of the issue of the full licence.

Grant of full licence to holder of temporary or minor licence.

17. (1) If, before the 31st of March next following the expiration of a Resident's Temporary Licence, the holder takes out a Resident's Minor Licence, game killed under the temporary licence of a species which is also allowed to be killed under a minor licence shall be deemed to have been killed under the minor licence, and the amount of game which may be killed under the minor licence shall be reduced accordingly. A minor licence shall not be issued during the currency of any other game licence.

Grant of minor licence to holder of temporary licence.

(2) No reduction shall be made in the fee for the minor licence.

18. (1) In the event of cruelty or wasteful killing or wounding being persisted in by the holder of a Game Licence after warning, any Administrative Officer or Game Ranger may suspend the licence, and shall refer the question of its cancellation to the Governor.

Power to suspend Game Licences for cruelty, etc.

(2) If any officer suspends a licence he shall at once inform the Director.

19. (1) Beaters, gun-bearers and others (not being "Professional Hunters") may assist the holder of a Game Licence to hunt game without themselves being licensed, but shall not discharge any firearm against game except in defence of themselves or any other person.

Use of fire-arms by beaters, etc.

(2) The holder of any Game Licence who is a party to any breach of this regulation shall be guilty of an offence.

Register of
animals
killed under
a Game
Licence.

20. (1) Every holder of a Game Licence shall keep an accurate register of all game animals killed by him in the form shown in the First Schedule hereto, and, before leaving the Territory or within fifteen days from the expiration of his licence, whichever first occurs, shall deliver his licence and the register signed by himself to the Administrative Officer of the district in which he is at the time of the expiration of his licence, or at the time of his leaving the Territory, as the case may be. The Administrative Officer shall then send the register to the Director.

(2) Every Administrative Officer shall examine every register delivered to him, and, if he has reason to suspect that the licensee is guilty of an offence against the Ordinance, shall cause such inquiries to be made as may be necessary.

ELEPHANT AND GIRAFFE LICENCES

Issue and
duration of
Elephant
and Giraffe
Licences.

21. (1) An Administrative Officer may issue only to the holder of a Visitor's Full Licence or a Resident's Full Licence an Elephant and Giraffe Licence to kill not more than two elephants and one giraffe in the form of such licence given in the First Schedule hereto and at the fees specified hereunder, namely :

1st Elephant	Shs.400
2nd Elephant	„ 600
Giraffe	„ 150

(2) An Elephant and Giraffe Licence shall expire on the same date as the full licence in respect of which it was granted.

(3) An applicant for an Elephant and Giraffe Licence shall produce to the Officer granting it his Full Resident's or Visitor's Licence, and such Officer shall endorse thereon particulars of the Elephant and Giraffe Licence. Having killed any giraffe or elephant, the licensee shall immediately notify the nearest Administrative Officer of the fact.

(4) No person shall hunt giraffe in the Arusha District or in the Moshi District.

(5) All regulations as to Game Licences shall apply to Elephant and Giraffe Licences.

Refund of
fees.

22. A person who has obtained a licence to shoot any elephant and claims not to have fired at an elephant or not to have fired at all the elephants which he is by his licence authorized to kill, may, upon surrendering his licence and producing a written declaration and such other evidence in support of his statement as the Director may require, obtain a refund of the amount overpaid.

GAME LICENCES FOR NATIVES

- 23.** A native may be granted a Game Licence by permission of the Governor.
- Consent of Governor before grant to native.

PERMITS TO HUNT YOUNG GAME AND PROTECTED BIRDS

- 24.** (1) The Director may, if he thinks fit and subject to such conditions as he shall specify, grant a permit to any person to take or possess the young of any game or the young or eggs of birds protected by a close season when he is satisfied that they are required for the purposes of domestication or science.
- Power for Director to issue permits.

(2) Every such permit shall accompany such animals or eggs if they are sold or otherwise disposed of.

(3) Unless the permit otherwise requires, no certificate of ownership shall be necessary in respect of any such animal or eggs.

(4) Provided that the Director shall at once report to the Governor any permit granted in respect of giraffe or elephant, or any animal specified in the Fifth Schedule to the Ordinance, or rhinoceros.

PROFESSIONAL HUNTERS' LICENCES

- 25.** Professional Hunters' Licences may be granted by any Administrative Officer, and shall expire on the 31st day of March next following the date of issue. The fee for the licence shall be twenty shillings, and the form of licence shall be as shown in the Second Schedule hereto.
- Fee and duration of licence.

- 26.** A Professional Hunter's Licence shall not authorize the licensee to hunt game.
- Prohibition of hunting game.

RESTRICTIONS OF THE SALE OF TROPHIES, AND CERTIFICATES OF OWNERSHIP

- 27.** (1) No person shall sell any trophy, whether the game from which it was obtained was killed before or after the commencement of these regulations, unless he holds a certificate of ownership for the trophy or, in the case of elephant ivory, a certificate of ownership or sale issued under the Ivory Regulations, dated the 31st March, 1919, or some earlier regulation.
- Prohibition of sale or purchase of trophies for which certificates of ownership have not been issued.

(2) No person shall buy any trophy from any person who does not hold a certificate of ownership for that trophy.

Form of and conditions on which certificate may be issued.

28. (1) Certificates of ownership may be issued by any Administrative Officer, and shall be in the form given in the Third Schedule hereto.

(2) A certificate of ownership shall not be issued except upon satisfactory proof that the trophy is the lawful property of the applicant, and that there has been no contravention of the Ordinance or of any earlier law or of these or any earlier regulations in connection therewith or in connection with the animal from which it was obtained.

(3) No certificate of ownership for a trophy shall be issued after the expiration of one year from the date on which the animal from which it was obtained was killed. But this provision shall not apply to trophies obtained from animals killed before the commencement of these regulations.

(4) Provided that if a trophy obtained from an animal killed before the commencement of these regulations is produced to an Administrative Officer at any time within twelve months from the commencement of these regulations or within such extended time as the Administrative Officer may, when the delay is accounted for to his satisfaction, permit, the Administrative Officer, if he is satisfied that the person producing the trophy is the lawful owner thereof and acquired the trophy without knowledge of any illegality in connection with the killing of the animal, shall grant a certificate of ownership in respect thereof to that person.

(5) After the expiration of three years from the date of these regulations, no certificate of ownership shall be granted in respect of any trophy obtained from an animal killed before the commencement of these regulations.

(6) But a certificate of ownership shall not be refused to the Administrator-General or any executor or administrator for a trophy forming part of an estate being administered by him by reason only that the certificate was not applied for within the prescribed time.

(7) Every certificate of ownership shall be signed in ink by the person to whom it is issued.

(8) This regulation does not apply to ivory or rhinoceros horn. The grant of certificates of ownership for ivory and rhinoceros horn is dealt with elsewhere.

Refusal of certificate.

29. (1) If a certificate of ownership for any trophy is applied for but the Administrative Officer is not satisfied that the applicant is entitled to the certificate, he shall refuse the certificate.

(2) If a certificate of ownership is refused on the ground of failure to prove that there has been no contravention of any such Ordinance, law, or regulation as aforesaid, the Administrative Officer shall retain the trophy as the property of the Government.

(3) If a certificate of ownership is refused on the ground that the applicant has failed to prove that he is the *bona fide* owner, the Administrative Officer shall retain the trophy with a view to inquiry being made as to the true owner.

(4) If a certificate of ownership is refused by reason only that it has not been applied for within due time, the trophy shall be returned to the owner.

(5) This regulation does not apply to ivory or rhinoceros horn or to imported trophies. The effect of the refusal of a certificate of ownership in these cases is dealt with elsewhere.

30. (1) On every sale or transfer the certificate of ownership shall accompany the trophy, and the vendor or transferor shall endorse the fact and the name of the purchaser or transferee on the certificate. The endorsement shall be in the form given in the Third Schedule hereto.

Transfer of
certificates
on sale of
trophies.

(2) Every endorsement of a sale of transfer shall be signed in ink by both parties.

31. Any number of trophies may be dealt with in a single certificate of ownership.

Grant of cer-
tificate for
several
trophies.

31A. (1) No person shall sell or offer for sale the meat of any game animal unless duly licensed in that behalf by the District Officer.

Sale of
game meat.

(2) Every game meat dealer's licence shall commence on the day on which it is expressed to commence, and unless previously cancelled or otherwise determined, shall expire on the next thirtieth day of September or thirty-first day of March.

(3) The fee payable for a game meat dealer's licence shall be at the rate of forty shillings for every year. Every such licence shall be in the form of the Seventh Schedule hereto.

(4) The issue of a licence shall be subject to the absolute discretion of the District Officer, who may, without assigning a reason, refuse to grant such licence. Such refusal shall be subject to appeal to the Governor.

TROPHY DEALERS' LICENCES

Restriction
on sale and
purchase of
trophies
without
licence.

32. (1) Except as hereinafter mentioned no person shall after the expiration of six months from the commencement of these regulations sell or buy any trophy unless he holds a Trophy Dealer's Licence.

(2) But, notwithstanding this provision:

- (a) Any person who has been granted a certificate of ownership for a trophy obtained from an animal killed by himself may sell that trophy to any person who appears to require it solely for his own private use, or to any licensed trophy dealer.
- (b) Any person may purchase any trophy for which a certificate of ownership has been granted when the trophy is required solely for the private use of the purchaser.
- (c) Any person may buy Government ivory or rhinoceros horn at an auction held under Regulation 51 (2), and may export any such ivory or horn, or may resell it to any person who appears to require it solely for his own private use or for export only or to any licensed trophy dealer.

Duration
and fee for
Trophy
Dealers'
Licences.

33. (1) Trophy Dealers' Licences may be granted by any Administrative Officer, and shall expire on the 31st day of March next following the date of issue.

(2) The fee for the licence shall be Shs.200.

(3) The form of licence is given in the Fourth Schedule hereto.

Premises to
be named in
licences.

34. (1) A Trophy Dealer's Licence shall only authorize the business of a trophy dealer to be carried on in premises which shall be named in the licence and shall be situated in a place which has been declared to be a township for the purposes of the Townships Ordinance, and within one mile from the office of an Administrative Officer in charge of a district or sub-district.

(2) One licence may include any number of separate premises situated in the same township. But a separate licence shall be required for the premises situated in each township.

(3) Subject to the foregoing provisions, any number of Trophy Dealers' Licences may be granted to any person.

Restrictions
on possession
of trophies.

35. (1) No holder of a Trophy Dealer's Licence shall, except with a written permit from an Administrative Officer, have in his possession any trophy or material or thing manufactured from a trophy except on premises in which he is licensed to carry on the business of a trophy dealer.

(2) No holder of a Trophy Dealer's Licence shall have in his possession on premises in which he is licensed to carry on the business of a trophy dealer any trophy unless a certificate of ownership has been granted in respect thereof. Provided that this provision shall not apply to trophies obtained from any animal killed before the date of commencement of these regulations until the end of six months from that date or such later date as an Administrative Officer may in any particular case allow.

36. The issue of a Trophy Dealer's Licence shall not exempt the holder from liability to obtain any licence for carrying on a trade or business which may be required by any other law. Liability to obtain licence under other laws.

37. (1) Every holder of a Trophy Dealer's Licence shall keep in ink an accurate register in the form shown in the Fourth Schedule hereto of the trophies bought or otherwise obtained by him and of the certificate of ownership of each such trophy, and of the manner in which each trophy is disposed of. Trophy Dealer's register.

(2) Any person whose Trophy Dealer's Licence is not renewed shall preserve his register for one year, and, if at any time during that year he is required to do so, he shall deliver it to the Administrative Officer who granted the licence.

SUPPLEMENTAL PROVISIONS AS TO LICENCES AND PERMITS

38. An Administrative Officer may, without assigning any reason, refuse to issue any licence to any person. But he shall at once report the fact to the Governor, who may, if he thinks fit, direct the Administrative Officer to issue the licence applied for either in the usual form or subject to such special conditions as the Governor may think necessary for ensuring the due observance of the Ordinance and these Regulations. Power to refuse to issue a licence.

39. Every licence or permit granted under these regulations shall bear the name in full of the person to whom it is granted, his signature in ink, the date of issue, the period of its duration, and the signature of the person granting the same. Contents of licences and permits.

40. If required by any authorized officer to produce his licence or permit the holder shall produce it, and shall upon demand of such officer sign his name afresh in his presence. Power to require licensee to sign his name.

41. Any person whose licence has been lost or destroyed may, on proving that he is entitled to it, obtain a duplicate on payment of a fee of ten shillings. Issue of duplicate licences and permits.

Licences and permits not transferable.

42. No licence or permit granted under the Ordinance or these regulations is transferable.

REGISTRATION OF ELEPHANT IVORY AND RHINOCEROS HORN

Production of horn to Administrative Officer.

43. (1) Every person who, at the commencement of these regulations, has in his possession or control any rhinoceros horn shall, within three months from the commencement of these regulations, produce it to an Administrative Officer.

(2) Every person who, at the commencement of these regulations, has in his possession or control any elephant ivory which has not been registered under any regulations hitherto in force shall within one month produce such ivory to an Administrative Officer for registration under these regulations.

(3) Every person who, after the commencement of these regulations, kills under a licence an elephant or rhinoceros shall, within one month from the date of the killing, produce the ivory or horn to the nearest Administrative Officer.

(4) Provided that the Administrative Officer may, if he thinks fit, extend the above times if he is satisfied that the delay was unavoidable or accidental.

(5) No person shall sell or transfer any ivory or rhinoceros horn which is hereby required to be produced to an Administrative Officer until it has been so produced.

Registration and marking of and certificates of ownership for ivory and horn.

44. (1) If the person producing elephant ivory or horn to an Administrative Officer proves to the satisfaction of the Administrative Officer that the ivory or horn is his lawful property, and has been produced within the prescribed time, and that there has been no contravention of the Ordinance or any earlier law, or of these or any earlier regulations in connexion therewith, or in connexion with the animal from which it was obtained, the Administrative Officer shall cause the ivory or horn to be weighed and indelibly marked with the particular mark allocated to the district or sub-district, the year of registration, and a consecutive number, and shall enter the same in a register to be kept for the purpose, and shall issue a certificate of ownership in respect thereof in the form given in the Third Schedule hereto, and shall also endorse on the licence under which the animal was killed the fact of such killing and the registration number of the ivory or horn, and shall then deliver the ivory or horn to the owner.

(2) The marks and form of register are given in the Fifth Schedule hereto.

45. (1) If the person producing the ivory or horn is unable to comply with the requirements of the preceding regulation, the Administrative Officer shall weigh, mark, and register the ivory or horn in manner aforesaid, but shall refuse to issue a certificate of ownership to that person. Seizure of ivory and horn not proved to be lawfully obtained.

(2) If a certificate of ownership is refused on the ground of failure to prove that it has been produced within the prescribed time or that there has been no contravention of any such Ordinance, law, or regulation as aforesaid, the Administrative Officer shall retain the ivory or horn as the property of the Government.

(3) If a certificate of ownership is refused on the ground that the applicant has failed to prove that he is the lawful owner, the Administrative Officer shall retain the trophy with a view to inquiry being made for the true owner.

IMPORT AND EXPORT OF IVORY AND RHINOCEROS HORN

46. (1) Any person importing any elephant ivory or rhinoceros horn into the Territory shall, within one week of its being removed from the control of the customs or such further time as any Administrative Officer may in any particular case allow, produce it to an Administrative Officer and obtain a certificate of ownership in respect thereof. Such certificate shall not be issued unless it is proved to the satisfaction of the Administrative Officer that the ivory or horn was lawfully exported from the country of origin and that all customs regulations have been complied with. Regulations as to import.

(2) Imported elephant ivory and rhinoceros horn shall be marked and registered in the same manner as other ivory or horn.

(3) Any imported elephant ivory or rhinoceros horn which is not produced to an Administrative Officer within such time as aforesaid, or for which a certificate of ownership is refused on the ground of failure to prove that it was lawfully exported as aforesaid and that all customs regulations have been complied with, shall be retained as the property of the Government.

47. No person shall export any trophy except at a recognized customs station, or without having previously surrendered to a customs officer every certificate of ownership, certificate of sale, or permit which may have been issued in respect thereof. Regulations as to export.

GOVERNMENT-OWNED GAME AND TROPHIES

48. Any person who has or shall have in his possession or control any game or trophy which is the property of the Government shall immediately produce it to the nearest Administrative Officer. Production of Government-owned trophies to Administrative Officer.

Rewards.

49. (1) Any person bringing to an Administrative Officer any elephant ivory or rhinoceros horn which he has found and is the property of the Government, or giving information which leads to the recovery of any elephant ivory or rhinoceros horn which is the property of the Government, may, in the discretion of the Administrative Officer, be paid a reward not exceeding four shillings per pound weight of the ivory or horn or half the value of the ivory or horn, whichever is the lesser.

(2) Officers and servants of the Government shall not be entitled to any reward for ivory or horn which they may find or deliver to an Administrative Officer; but cases in which some reward appears to be appropriate shall be reported to the Governor for his decision.

**Trophies of
game killed
accidentally
or in defence
of any
person.**

50. Any person not having the appropriate Game Licence who kills game accidentally or in defence of any person shall, in the case of elephant, hippopotamus or rhinoceros, have the ivory or horn, and, in the case of other game, the horns conveyed and given up to the nearest Administrative Officer who may, at his discretion, pay the cost of transport thereof.

**Disposal of
Government-
owned
trophies.**

51. (1) The Administrative Officer shall at once cause all elephant ivory and rhinoceros horn the property of the Government which shall come into his possession to be weighed and registered and indelibly marked in the same manner as other ivory or horn, and shall mark it with a broad arrow.

(2) Unless in any particular case the Governor authorizes such ivory or horn to be disposed of locally, the Administrative Officer shall forward all such ivory and horn to the Comptroller of Customs, who shall cause it to be sold by public auction, and shall deal with the proceeds of the sale as public revenue. On sale the Comptroller shall issue to the purchaser a certificate of ownership.

(3) Other trophies the property of the Government shall be disposed of by the Administrative Officer to whom they are brought under the directions of the Director.

**DESTRUCTION OF VERMIN AND OF GAME IN DEFENCE OF PERSON
OR PROPERTY**

**Power to
pay rewards
for destruc-
tion of
vermin.**

52. The animals specified in the Sixth Schedule hereto and any animal or bird which may be added to that schedule are hereby declared to be vermin, and the rewards specified in that schedule may be paid in respect of their destruction.

53. (1) The payment of a reward shall be in the discretion of the Administrative Officer, who may require such evidence as to the facts as he may in each case think fit. Evidence required for rewards.

(2) An applicant for a reward for the destruction of vermin shall produce the skull and skin to the Administrative Officer.

(3) The recipient of a reward shall, in every case, surrender the skull, and shall, if required, surrender the skin also.

(4) All skulls and skins surrendered shall be disposed of in such manner as the Director directs.

54. (1) Any person may, without a licence, kill any animal in defence of himself or any other person. Killing in self-defence and in defence of property.

(2) Any owner or occupier of land may, without a licence, kill or authorize any other person to kill on the spot any animal found damaging his crops or doing other material damage to his property if killing is necessary for the protection of such crops or property.

(3) Provided that in every case of such killing—

(a) the burden of proving the necessity for the killing shall lie on the person alleging such necessity;

(b) the occurrence shall at once be reported to the nearest Administrative Officer; and

(c) regulation as to producing trophies, the property of the Government, to an Administrative Officer shall be complied with.

55. An Administrative Officer may, where clear need exist, kill or authorize the killing of a rogue elephant, or of any game animal doing damage to the property of natives. Power to authorize killing of destructive animals in native gardens.

56. An Administrative Officer, on receiving information of the killing without a Game Licence of an elephant, hippopotamus or rhinoceros in defence of any person or property, shall, except where the killing was previously authorized by him, cause the circumstances to be investigated. Investigation of killing in defence of person or property.

57. If the Administrative Officer is satisfied that any elephant or hippopotamus was lawfully killed in defence of the property of a native, and that the damage done was considerable, he may, at his discretion, pay to the owner as compensation a sum not exceeding 20 per cent of the market value of the ivory, or he may divide that sum in such proportions as he thinks fit between the owner of the property and the killer of the animal. Power to pay 20% of value of ivory to owner of damaged property.

58. The Director shall, in general, exercise control over the destruction of dangerous or destructive game animals, and his sanction shall be obtained for all measures not here provided for. General control by Director.

Carriers of
tsetse fly.

59. The Director may from time to time kill or otherwise authorize the killing of elephant, buffalo, hippopotamus or any animal which may become dangerous by reason of its being a carrier of tsetse fly, in such areas and in such numbers as the Governor may from time to time direct.

Reports to
Director.

60. All measures taken for the protection of life or property and the results thereof shall be reported by the Administrative Officer to the Director.

SPECIAL PROVISIONS IN REGARD TO CERTAIN AREAS

61. (a) In the areas specified in this regulation, an elephant may be killed if it has at least one tusk weighing twenty-four pounds or more. Any tusks weighing less than twenty-four pounds shall be the property of the Government.

(b) The said areas are the following, namely:

MOSHI DISTRICT

1. The area known as Kampi ya Tembo lying between the Rivers Garanga and Kikafu and (on the north) the direct Moshi-Arusha road. Also a one-mile strip along the north of this road between the rivers mentioned.

2. The area known as Masaranga which lies between the Rau forest and the Mue River.

TANGA DISTRICT

3. The area known as Marimba, bounded on the north by the Zigi River.

MOROGORO (KILOSA) AND MAHENGE DISTRICTS

4. One mile on either side of the Kilosa-Mahenge road from Ulaya to Sakamaganga inclusive, excluding the small portion of the Selous reserve that enters this strip just south of the Ruaha River.

5. A strip one mile wide on each side of the Kilosa-Mahenge road from the Kilombero River to the Lufu River, with a branch, also one mile wide on each side of the road, running from the first-named river along the road to Ndembo (Makumba) together with the area between that is bounded by those two roads on the north and on the south, by a straight line drawn from Ndembo to the point where the Kilosa-Mahenge road crosses the Lufu River.

6. The triangular area enclosed by the roads from Mahenge to Ngapwera's, Ngapwera's to Mawanga's and Mawanga's to Mahenge, with an additional strip one mile in width along the east side of the Ngapwera to Mawanga road.

7. In Mkasu Sub-District, west of Mkasu, the jungle area known as Masagati.

SONGEA DISTRICT

8. The Songea-Lewuka-Mahenge main road in a north-easterly direction from its junction with the Songea-Liwale-Kilwa main road to its junction with the Songea-Mahenge boundary road. Thence the Songea-Mahenge boundary road in an easterly direction to its junction with the Mbalangandu River. Thence the Mbalangandu River upstream to a point where it intersects the Songea-Liwale-Kilwa road. Thence the Songea-Liwale-Kilwa road in a westerly direction to the point of commencement.

RUFJI DISTRICT

9. On each side of the road which enters the Rufiji district through Kisegese a strip five miles in width from the point at which it crosses the Dar es Salaam-Rufiji boundary through Koge village to Ngulakula and thence to Mpalange. A further strip bounded on the north by the Luhohi River and on the south by the Lungola from Mpalange through Kuimbini to the telegraph line that cuts those two rivers.

62. The First, Second and Fourth Schedules to the Game Preservation Ordinance shall apply as if wildebeeste and zebra were omitted therefrom, in the following area, namely:

Commencing at the point on the East side of Mt. Meru where the Engare Nanyuki crosses the lower margin of the dense forest belt the boundary follows the said margin round the north and west sides of the mountain until it meets the Kandangiriri stream; thence it runs in a straight line in a westerly direction to the summit of Ngiret Hill; thence in a straight line to the summit of the westernmost Hill of the Njok Hills; thence in a straight line to the highest summit of the Lassarkartarta Hills; thence in a straight line to the point where the Engare Nanyuki River crosses the road which runs west of Nagasseni Hill; thence it follows the Western bank of Engare Nanyuki River to the point of commencement.

Hyrax
hunting.

63. Nothing contained in the Ordinance or in any regulations issued thereunder shall be deemed to prohibit the hunting of hyrax in the area described in the Sixth Schedule to the said Ordinance as the Kilimanjaro Reserve (Moshi District). Provided always that this order shall not be deemed to authorize entry into that part of the Kilimanjaro Forest Reserve into which entry is prohibited by order of the Governor, dated the 15th February, 1926, and published in the *Gazette* as General Notice No. 112.

Hunting of
lion and
cheetah.

64. Notwithstanding anything contained in any regulation, no person shall hunt lion or cheetah in the areas specified below unless he holds a Resident's or Visitor's Full or Temporary Licence.

Areas.	LION. Type of Licence.	Number of Animals which may be killed.
Musoma District . . .	Visitor's Full Licence	Two
That part of the Arusha District west of the rift wall	Resident's Full Licence Visitor's Temporary Licence Resident's Temporary Licence	Two One One

Areas.	CHEETAH. Type of Licence.	Number of Animals which may be killed.
Musoma District . . .	Visitor's Full Licence	Two
Maswa "	Resident's Full Licence	Two
Arusha "		
Mbulu "		

Rhinoceros.

64A. Notwithstanding anything contained in the Ordinance, no person shall hunt black rhinoceros in the Northern Province unless he holds a Governor's Licence authorizing him to do so.

A Governor's Licence may be issued at a fee of Shs.150 to the holder of a Visitor's Full Licence or a Resident's Full Licence authorizing the killing of one male black rhinoceros in the Northern Province during the currency of such Visitor's Full Licence or Resident's Full Licence.

REVOCATION OF IVORY REGULATIONS

Revocation
of ivory
regulations.

65. (1) The Ivory Regulations dated 31st March, 1919, are hereby revoked.

(2) But ivory registered under those regulations or any earlier regulations shall be deemed to have been registered under these

regulations, and every certificate of sale of ivory issued under the regulations dated the 31st March, 1919, or any earlier regulations shall be deemed to be a certificate of ownership issued under these regulations.

(3) The revocation of the Ivory Regulations of the 31st March, 1919, shall not prevent or affect a prosecution for a breach of those regulations committed before the commencement of these regulations.

THE FIRST SCHEDULE

(Forms of Game Licences and Register to be kept by holder of a Game Licence.)

TANGANYIKA TERRITORY

	No.	
VISITOR'S FULL LICENCE.	(1)	Regulation
	Date	13.
Station		

A Visitor's Full Licence (1) is hereby granted to (2)

to kill or capture the animals which by the Game Preservation Ordinance and the Game Preservation Regulations for the time being in force, are permitted to be killed or captured under the authority of a Visitor's Full Licence (1), but subject only to the provisions of the Ordinance and Regulations aforesaid.

A list of the animals which on the could lawfully be killed or captured under the authority of a Visitor's Full Licence (1) is printed on the back hereof. The licensee must make himself acquainted with any alterations which have been made since that date.

Particulars of all game killed by the licensee must be registered as required by any Regulations for the time being in force.

This licence will expire on

Fee paid, Shs.1,500 (1).

Signature in ink of licensee.

Signature of Administrative
Officer.

NOTES :—

- (1) Or as the case may be.
- (2) State name, address and occupation of licensee.
- (3) This form is not to be used for an Elephant or Giraffe Licence.

Regulation
21.

TANGANYIKA TERRITORY
ELEPHANT AND GIRAFFE LICENCE

No.
Date

Station

An Elephant and Giraffe Licence is hereby granted to (1)
, of ,

being the holder of (2)

to kill or capture one giraffe (3) and (4) elephants
subject to the provisions of the Game Preservation Ordinance,
and the Game Preservation Regulations for the time being in
force.

This licence will expire on

Fee paid, Shs.

Signature in ink of licensee.

Signature of Administrative
Officer.

Information is given on the back hereof as to the substance of
certain regulations applicable to this licence. The regulations
themselves should also be read.

NOTES:—

- (1) State name, address and occupation of licensee.
- (2) Give particulars of the licensee's full licence.
- (3) Strike out if necessary.
- (4) State number or strike out.

INFORMATION TO BE PRINTED ON THE BACK OF AN ELEPHANT AND
GIRAFFE LICENCE

Particulars of all game killed by the licensee must be registered
as required by the Regulations.

The killing of any animal under the authority of this licence
must be at once reported to the nearest Administrative Officer.

No elephant may be hunted unless it has at least one tusk
weighing 30 lbs. or more.

If any elephant is killed having any tusk less than 30 lbs. in
weight, that tusk must be immediately delivered to the nearest
Administrative Officer.

All tusks of 30 lbs. or over must be produced to an Adminis-
trative Officer for registration within one month from the date
of the killing.

FORM OF REGISTER TO BE KEPT BY HOLDER OF A GAME LICENCE Regulation
20.

TANGANYIKA TERRITORY

GAME REGISTER

Species.	Number.	Sex.	Locality.	Date.	Remarks.

I declare that the above is a true record of all animals killed by me in the Tanganyika Territory under the Licence No. _____ granted to me on the 19____, at _____

Signature in ink of licensee.
(Date).

Passed

Signature of Examining Officer.

19____.

THE SECOND SCHEDULE

FORM OF PROFESSIONAL HUNTER'S LICENCE
No.

Regulation
25.

Date

Station

PROFESSIONAL HUNTER'S LICENCE

(1)

is hereby granted a Professional Hunter's Licence pursuant to the Game Preservation Ordinance, and the Game Preservation Regulations for the time being in force.

This licence will expire on

Fee paid, Shs.20.

Signature in ink of licensee.

Signature of Administrative
Officer.

NOTES:—

- (1) State name, address and occupation of licensee.
- (2) This licence does not authorize the holder himself to hunt game.

THE THIRD SCHEDULE

TANGANYIKA TERRITORY

Regulations 28 and 44. **CERTIFICATE OF OWNERSHIP UNDER THE GAME PRESERVATION REGULATIONS, 1921**

No.

Date

Station

(Name)

of (Address)

(Occupation)

is hereby certified to be the

owner of (1)

obtained from an animal killed under (2)

Signature of Administrative
Officer.

NOTES:—

- (1) The trophy should be described sufficiently to enable it to be identified.
- (2) When the trophy was obtained from an animal killed under a licence issued under the Game Preservation Ordinance, 1921, or the Game Preservation Proclamation, 1920, the description, number and date of the licence under which the animal was killed, and the district in which the licence was issued, should be stated.
- (3) In the case of elephant ivory or rhinoceros horn, the mark, number and year of registration should be stated.

Regulation 30. **FORM OF ENDORSEMENT OF SALE OR TRANSFER ON CERTIFICATE OF OWNERSHIP**

Sold (transferred)

on the (date)

to (name, address and occupation of purchaser or transferee)

Signature in ink of Vendor or Transferor.

Signature in ink of Purchaser or Transferee.

THE FOURTH SCHEDULE

TANGANYIKA TERRITORY

TROPHY DEALER'S LICENCE

Regulation
33.No.
Date

Station

(1)

is hereby granted a Trophy Dealer's Licence pursuant to the Game Preservation Ordinance, and the Game Preservation Regulations for the time being in force.

This licence is granted for the following premises only (2)

This licence will expire on

Fee paid, Shs.200.

Signature in ink of licensee.

Signature of Administrative
Officer.

Notes:—

- (1) State name, address and occupation of licensee.
- (2) Describe premises for which the licence is granted.

FORM OF TROPHY DEALER'S REGISTER

Regulation
37.

Description of trophy.	If ivory or horn, state weight and mark.	If not ivory or horn, state number of trophies only.	Station No. and date of certificate of ownership, and station of issue.	From whom obtained and when.	How disposed of.	Date of disposal.

DISTRICT AND SUB-DISTRICT MARKS FOR IVORY AND RHINOCEROS HORN

DISTRICT AND SUB-DISTRICT MARKS FOR IVORY AND RHINOCEROS HORN

Arusha . . .	AR	Mikindani . . .	MD
Bagamoyo . . .	BG	Mkalama . . .	ML
Biharamulo . . .	BR	Mkasu . . .	MK
Bukoba . . .	BK	Mohoro . . .	MR
Dar es Salaam . . .	DS	Morogoro . . .	MG
Dodoma . . .	DA	Moshi . . .	MC
Handeni . . .	HD	Mpwapwa . . .	MP
Iringa . . .	IR	Musoma . . .	MO
Kahama . . .	KH	Mwanza . . .	MW
Kasulo . . .	KO	Namanyere . . .	NE
Kibata . . .	KB	Newala . . .	NA
Kigoma . . .	KI	Nzega . . .	NZ
Kilimatinde . . .	KE	Pangani . . .	PA
Kilosa . . .	KL	Rufiji . . .	RI
Kilwa . . .	KW	Rungwe . . .	RU
Kondoa-Irangi . . .	KD	Same . . .	SE
Lindi . . .	LD	Shinyanga . . .	SY
Lipumba . . .	LP	Singida . . .	SA
Liwale . . .	LE	Songea . . .	SG
Mahenge . . .	MH	Tabora . . .	TB
Malangali . . .	MI	Tanga . . .	TA
Masasi . . .	MS	Tunduru . . .	TU
Maswa . . .	MA	Ufipa . . .	UF
Mbeya . . .	MB	Ujiji . . .	UJ
Mbulu . . .	MU	Usambara . . .	US

FORM OF REGISTER OF IVORY AND RHINOCEROS HORN

State whether tusk or horn.	Weight.	Number stamped.	Name of Owner.	Remarks.

THE SIXTH SCHEDULE

VERMIN

Regulation
52.

	Reward if skin returned to claimant.	Reward if skin surrendered.
1. Lion	Shs.10	Shs.15
2. Leopard	" 6	" 10
3. Hunting dog	" 4	
4. Baboon	Cts.50	
5. Bush Pig	Shs.2	
6. Buffalo		

THE SEVENTH SCHEDULE

GAME MEAT DEALER'S LICENCE

Regulation
31A.

Licence is hereby granted to.....of.....
, to sell and deal in game meat.

This licence expires on.....

Fee paid Shs.40.

District Officer,

Date.....

.....DISTRICT.

THE EIGHTH SCHEDULE

PERMIT TO HUNT OR PHOTOGRAPH GAME

Regulation
8A.

Permission is hereby given to.....of.....
to hunt and/or photograph game in the
of.....

This permit is granted subject to the provisions of the
 Game Preservation Ordinance and the Regulations and Orders
 made thereunder, and to any special conditions endorsed hereon.

This permit will expire on the.....day of.....19..

Given under my hand at.....this day of.....19....

.....

Provincial Commissioner,

Province of.....

or

.....
District Officer as Delegate of
Provincial Commissioner.

APPENDIX IX

BIBLIOGRAPHY

(a) OFFICIAL PUBLICATIONS

Title of Publication.	Price. Shs. Cts.	Postage. Shs. Cts.	Equivalent in English Money.
<i>Tanganyika Territory Gazette :</i>			£ s. d.
Loose copies, per copy . . . . .	.50	Postage in- cluded	6
Annual subscription including all Supplements	24.00		1 4 0
Subscribers to the Gazette who pay Shs.24 in addition to the annual subscription will be supplied with the following reports :			
Tanganyika Annual Report			
Agriculture Report			
Education Report			
Forestry Report			
Labour Report			
Trade Report			
Veterinary Report			
Blue Book			
Bound volumes 1919-20 to 1929, per volume	30.00	Postage in- cluded	1 10 0
<i>Blue Book, 1929</i>	10.00	.80	10 10
<i>Annual Departmental Reports :</i>			
Agriculture Part I—1928-29	2.00	.10	2 2
" Part II—1928-29	2.00	.10	2 2
Audit, 1928	2.00	.05	2 1
Education, 1928	2.50	.15	2 8
Financial, 1928-29	5.00	.35	5 5
Forestry, 1928	2.50	.10	2 8
Geological Survey, 1928	4.00	.15	4 2
Labour, 1928	4.00	.15	4 2
Land, 1929	2.00	.10	2 2
Medical, 1928	5.00	.40	5 5
Medical Laboratory, 1928	2.50	.25	2 9
Mines, 1928	2.00	.10	2 2
Police, 1928	2.50	.15	2 8
Prisons, 1928	2.50	.15	2 8
Trade, 1929	4.50	.30	4 10
Tsetse Reclamation, 1928-29	2.50	.15	2 8
Tsetse Research, 1928-29	2.50	.15	2 8
Veterinary, 1928	3.00	.20	3 3

Title of Publication.	Price. Shs. Cts.	Postage. Shs. Cts.	Equivalent in English Money.
<i>Annual Report on the Territory, 1929</i>	3.50	.25	£ s. d. 3 9
<i>Legislation :</i>			
Laws of Tanganyika revised to 31st December 1928 : per set of three volumes	60.00	4.50 (local) 5.00 (Kenya, Uganda) 5.50 (Over- seas)	3 4 6 3 5 0 3 5 6
Laws of Tanganyika, 1929 . . .	10.00	1.00	11 0
Mining Ordinance and Regulations	2.00	.15	2 2
Land Ordinance and Regulations.	2.50	.10	2 8
Land Surveyors Ordinance and Regulations	1.00	—	—
Education Ordinance and Regula- tions	1.00	.15	1 2
<i>Miscellaneous Publications :</i>			
Handbook of East African Pasture Plants—I	2.50	.20	2 9
Handbook of East African Pasture Plants—II	3.00	.20	3 3
Legislative Council Proceedings, 4th Session, Part I (1929-30) . . .	5.00	.30	5 4
Post Office Handbook	Free	Free	Free
Railways Handbook . . . . .	.25	Free	Free
Railway Tariff Book No. 3 . . .	2.00	.65	2 9
Land Development Survey Report	5.00	.35	5 5
Report on the Survey of the South- Western Railway	5.00	.35	5 5
Agricultural Report on parts of the Iringa Province	1.00	.05	1 1

NOTE 1.—Reference is made to the most recent publication. Previous publications, if still available, can be obtained at varying prices.

NOTE 2.—All the above publications can be obtained from the Government printer, Dar es Salaam, or from the Crown Agents for the Colonies, 4 Millbank, Westminster, London, S.W.1.

(b) IN ENGLISH

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APPENDIX X

LIST OF TRADING FIRMS AT THE PRINCIPAL IMPORT CENTRES IN TANGANYIKA

Name of Firm.	Where Established.	Activities.
Smith, Mackenzie and Company	Dar es Salaam Tanga Lindi	Import and export merchants, commission agents, clearing and forwarding agents, light-erage contractors. Managers for the East Africa Sisal Estates Limited. Agents for The British India Steam Navigation Company, Limited; The Union-Castle Steamship Company; The Zanzibar Government Steamers; The Shell Oil Company.
African Mercantile Company, Limited	Dar es Salaam Tanga Mwanza Bukoba	Import and export merchants, commission agents, clearing and forwarding agents. Agents for the Osaka Shosen Kaisha Line; Clan; Ellerman, Harrison Line; Ellerman and Bucknall Steamship Company, Limited; Vacuum Oil Company.
Lehmann's (Africa), Limited	Dar es Salaam	Importers, exporters and commission agents, clearing and forwarding agents. Agents for the Tanganyika Cotton Estates.
British East Africa Corporation, Ltd.	Dar es Salaam Tanga Mwanza Bukoba Tabora	Importers, exporters and commission agents, clearing and forwarding agents.
Saml. Baker and Company (East Africa), Limited	Dar es Salaam	Importers, exporters and commission agents, clearing and forwarding agents. Managers for The Tanganyika Brick and Land Development Company, Ltd.

**LIST OF TRADING FIRMS AT THE PRINCIPAL
IMPORT CENTRES—*continued***

Name of Firm.	Where Established.	Activities.
Rufiji Delta Trading Company	Dar es Salaam	Importers, exporters and commission agents, clearing and forwarding agents.
Kettles-Roy, Ltd. Gibson and Company	Dar es Salaam Dar es Salaam	Manufacturers' representatives. Importers, exporters and commission agents, clearing and forwarding agents. Agents for the Anglo-Persian Oil Company.
Boustead and Clarke	Dar es Salaam	Importers, exporters and commission agents, clearing and forwarding agents.
Leslie and Anderson, Limited	Dar es Salaam	Importers, exporters and commission agents, clearing and forwarding agents.
Gailey and Roberts, Limited	Dar es Salaam	Wholesale merchants, dealers in all modern farming implements and machinery.
East African Engineering and Trading Company (Stewart's Stores)	Dar es Salaam	Wholesale and retail provision merchants and general stores.
Howse and McGeorge (Kodak (EastAfrica) Limited)	Dar es Salaam	Chemists, dealers in drugs, medicines and toilet requisites, Kodak films and cameras.
Motor Mart and Exchange, Limited	Dar es Salaam	Importers, exporters and retail dealers in motor cars, lorries and accessories, garage proprietors.
Usagara Company, Limited	Dar es Salaam Tanga Lindi Moshi	Importers, exporters and commission agents, clearing and forwarding agents, estate managers. Agents for Ford motor cars and spares.
William O'Swald and Company	Dar es Salaam	Importers, exporters and commission agents, clearing and forwarding agents.
Martin Falk (Africa), Limited	Dar es Salaam	Importers, exporters and commission agents, clearing and forwarding agents.
Twentsche Overseas Trading Company, Limited	Dar es Salaam Tanga Bukoba	Importers, exporters and commission agents, lighterage contractors. Agents for the Holland Afrika Lijn.
Deutsche Ostafrika Linie	Dar es Salaam	Shipping.
Theodor Wendt	Dar es Salaam	Importer, exporter and commission agent, clearing and forwarding agent.

LIST OF TRADING FIRMS AT THE PRINCIPAL
IMPORT CENTRES—*continued*

Name of Firm.	Where Established.	Activities.
Old East Africa Trading Company	Dar es Salaam Tanga Mwanza Bukoba	Importers, exporters and commission agents, clearing and forwarding agents.
British American Tobacco Company, Limited	Dar es Salaam	Wholesale dealers in tobaccos, cigarettes and cigars.
L. Besson and Company	Dar es Salaam Mwanza	Importers, exporters and commission agents, dealers in imported timber. Agents for the Compagnia Italiana Transatlantica.
Agence Belge . . .	Dar es Salaam	Managers for the Belgian Government of the Belgian leased sites at Dar es Salaam and Kigoma. Agents for the Compagnie Africaine and Messageries Maritimes steamship companies.
Karimjee Jivanjee and Company	Dar es Salaam Tanga Lindi Mikindani	Importers, exporters and commission agents, estate owners and managers. Agents for the Texas Oil Company, dealers in motor cars, lorries and accessories, proprietors of oil and soap factories.
Esmailjee Jivanjee and Company	Dar es Salaam Tanga	Importers, exporters and commission agents, dealers in motor cars, lorries and accessories.
Mathurdas Kalidas .	Dar es Salaam Lindi	Planters and ginners, importers and exporters.
Indian Uganda Cotton Merchants, Limited	Dar es Salaam	Cotton ginners and general merchants.
Kampala General Agency	Dar es Salaam Mwanza	Cotton ginners and general merchants.
Keshawji Anandji and Company	Dar es Salaam	General merchants and commission agents, importers and exporters.
Alli Walli and Company	Dar es Salaam	Importers and exporters, general merchants and tanners.
Tanganyika Cotton Company, Limited	Morogoro	Cotton and sisal estate owners, ginners and exporters of sisal and cotton.
Alli Dattoo Patel .	Dar es Salaam	Importer and exporter, commission agent, dealer in ivory.
Dawood Haji Nassor Brothers	Dar es Salaam	Importers, exporters and commission agents.
Moloo Brothers and Company	Dar es Salaam	Silk, ivory and curio merchants.

**LIST OF TRADING FIRMS AT THE PRINCIPAL
IMPORT CENTRES—continued**

Name of Firm.	Where Established.	Activities.
Haji Brothers and Company	Dar es Salaam	Silk, ivory and curio merchants.
Lalchand Ramchand (Oriental Stores)	Dar es Salaam	Silk, ivory and curio merchants.
B. Choitram (Eastern Bazaar)	Dar es Salaam	Silk, ivory and curio merchants.
Malis de Silva and Company	Dar es Salaam	Jewellers and curio merchants.
Ranti de Silva and Company	Dar es Salaam	Jewellers and curio merchants.
Ceylon Jewellery Mart	Dar es Salaam	Jewellers and curio merchants.
Kassum Sunderji	Dar es Salaam	Dealer in provisions, wines and spirits, wholesale and retail merchant.
Samji (Kassum's Stores)		
Abdul Rasul and Sons	Dar es Salaam	Ice and soda manufacturers.
De Souza Junior and Dias	Dar es Salaam	General retail merchants, dealers in wines and spirits, provisions, household and toilet requisites and fancy goods.
	Tabora	
	Morogoro	
Colonial Trading Company	Dar es Salaam	Wholesale and retail dealers in provisions, wines and spirits.
Jivanji Brothers .	Dar es Salaam	General hardware and paint merchants.
Gulamhussein Brothers	Dar es Salaam	General hardware and paint merchants.
J. S. Davis and Company	Dar es Salaam	General hardware merchants.
Gulamali Damji .	Dar es Salaam	General merchant and commission agent.
Jaffer Somji and Company	Dar es Salaam	Importers and exporters, general merchants.
Janmohamed Hansraj	Dar es Salaam	Dealer in piece goods.
Karim Jetha .	Dar es Salaam	Dealer in piece goods.
Ali Megji and Sons .	Dar es Salaam	Dealers in piece goods.
Abdallah Khimji .	Dar es Salaam	Cloth and general merchant and commission agent.
Jafferali Noormohamed	Dar es Salaam	Cotton and silk merchant.
Bahati Supply Depot	Dar es Salaam	Provisions, fruit and vegetables, etc.
Tchenzema Garden Stores	Dar es Salaam	Provisions, fruit and vegetables, etc.
Tanganyika Printing and Publishing Works	Dar es Salaam	Publishers, printers, book-binders and stationery.
Tanganyika Standard	Dar es Salaam	Publishers, printers, book-binders and stationery.
Kanti Printing Works	Dar es Salaam	Publishers, printers, book-binders and stationery.

LIST OF TRADING FIRMS AT THE PRINCIPAL
IMPORT CENTRES—*continued*

Name of Firm.	Where Established.	Activities.
Herald Printing Works	Dar es Salaam	Publishers, printers, book-binders and stationery.
W. H. Lewis and Sons	Dar es Salaam	Building contractors.
Arjun Kunverji Patel	Dar es Salaam	Building contractor.
A. Garbini . . .	Dar es Salaam	Building contractor.
Cassam Sacha Chacha	Dar es Salaam	Auctioneer, broker and valuer.
A. Rothbletz . .	Dar es Salaam	Furniture maker.
Henry Portlock and Company (East Africa) Limited	Tanga	General importers and exporters, estate managers.
Chabildas Mehta and Company	Tanga	General importers and exporters, sisal estate owners.
A. S. Emslie . .	Tanga	Purveyor of provisions and groceries.
Usambara Magazine (W. J. Tame)	Tanga	General merchants, mainly hardware, machinery, etc., and building materials.
Kaiser Brothers .	Tanga	General merchants, mainly hardware, machinery, etc., and building materials.
Tanga Trading Company, Limited	Tanga	General merchants, mainly hardware, machinery, etc., and building materials.
J. S. Davis . . .	Tanga	General merchant, mainly hardware, machinery, etc., and sanitary engineer.
The Amboni Estates, Limited	Tanga	Exporters of domestic produce and importers of plantation materials only.
L. F. Smith and Company	Tanga	Exporters of domestic produce and importers of plantation materials only.
Von Lekow and Paulsen	Tanga	Exporters of domestic produce and importers of plantation materials only.
East Africa Planting and Developing Company	Tanga	Exporters of domestic produce and importers of plantation materials only.
The International Motor Mart	Tanga	Agents for International Trucks and Naah motor cars.
Thiel and Company	Tanga	Agents for Chevrolet cars and trucks.
M. Weiss and Company	Tanga	Importers of cotton piece goods, silk, woollen and cotton manufactures.
Gopal Purshotam and Sons	Tanga	Purveyor of provisions and groceries.
Esmail Jetha	Tanga	Importer of cotton piece goods, blankets and native trade goods. Agent for Hansing and Company.

**LIST OF TRADING FIRMS AT THE PRINCIPAL
IMPORT CENTRES—*continued***

Name of Firm.	Where Established.	Activities.
T. E. Sachak and Company	Tanga	Importers, exporters and sisal estate owners.
Meat Rations, Ltd. .	Mwanza	Exporters of live cattle and cattle products.
British Cotton Growing Association	Mwanza	Cotton ginnerers and cotton exporters.
E. Jungblut . .	Mwanza	Rice mill owner.
Ladha Meghji . .	Mwanza	Rice mill owner and rice exporter, general merchant.
Chagan Bhanji . .	Mwanza	General merchant.
M. J. Machado and Company	Bukoba	General provision, hardware and soft goods merchants.
Suleman, Noormahomed and Company	Bukoba	General provision, hardware and soft goods merchants.
Rashid Moledina and Company	Bukoba	Importers of native trade goods, piece goods, hardware, hollow-ware, etc.
Kassamali Alarakhia	Bukoba	Importer of native trade goods, piece goods, hardware, hollow-ware, etc.
Abdullah Fazal and Company	Bukoba	Importers of native trade goods, piece goods, hardware, hollow-ware, etc.
Manakwalla and Company	Bukoba	Importers of native trade goods, piece goods, hardware, hollow-ware, etc.
Omar, Abdulkarim and Sons	Bukoba	Importers of native trade goods, piece goods, hardware, hollow-ware, etc.
Pirbhai Visram and Company	Bukoba	Importers of native trade goods, piece goods, hardware, hollow-ware, etc. Agents for William O'Swald and Company.
Gulamali Merali .	Bukoba	Importer of native trade goods, piece goods, hardware, hollow-ware, etc.
Darweshali, Rajabali and Company	Bukoba	Importers of native trade goods, piece goods, hardware, hollow-ware, etc.
Permanand, Ghellabhai	Bukoba	Importers of native trade goods, piece goods, hardware, hollow-ware, etc.
Tanganyika General Agency	Bukoba	Coffee exporters.
Shariff, Jiwa and Company	Bukoba	Coffee exporters.
Mahomedlai, Gulamhussein and Company	Bukoba	Coffee exporters.

LIST OF TRADING FIRMS AT THE PRINCIPAL
IMPORT CENTRES—*continued*

Name of Firm.	Where Established.	Activities.
Kikwetu Sisal Estates, Limited	Lindi	Exporters of sisal, sisal planters. Agents for the Holland Afrika Lijn.
Mohamed Jaffer .	Lindi	Importer of provisions, tobacco, general merchandise, exporter of native produce. Agent for Rising Hope Tobacco.
Edward de Souza	Lindi	Importer of provisions, wines, beer, spirits, hardware and household utensils.
Jaffer Somji and Com- pany	Lindi	Importers of piece goods and general merchandise, ex- porters of native produce.
Tanganyika Transport Company	Lindi	Motor mechanics, carriers and contractors.

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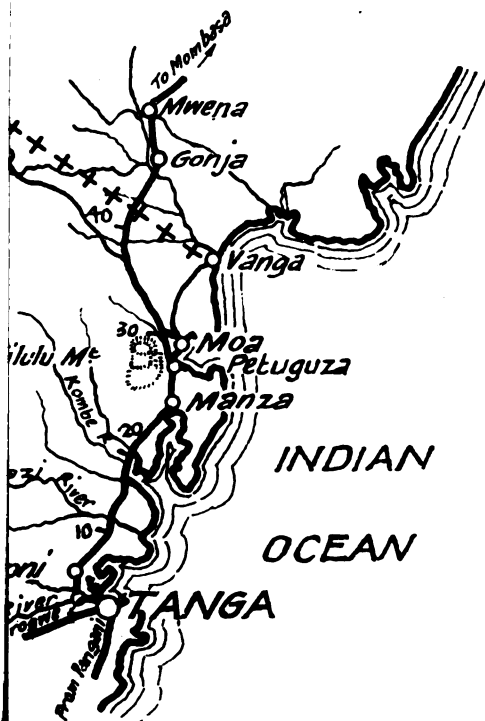
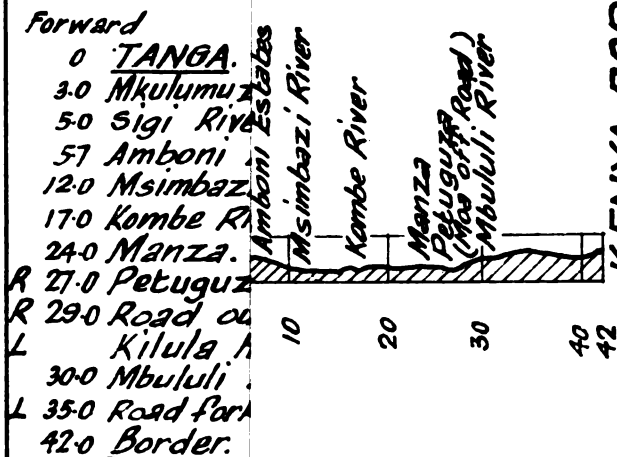




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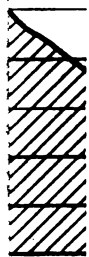


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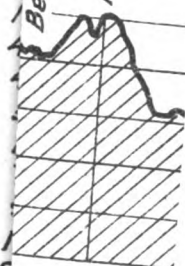
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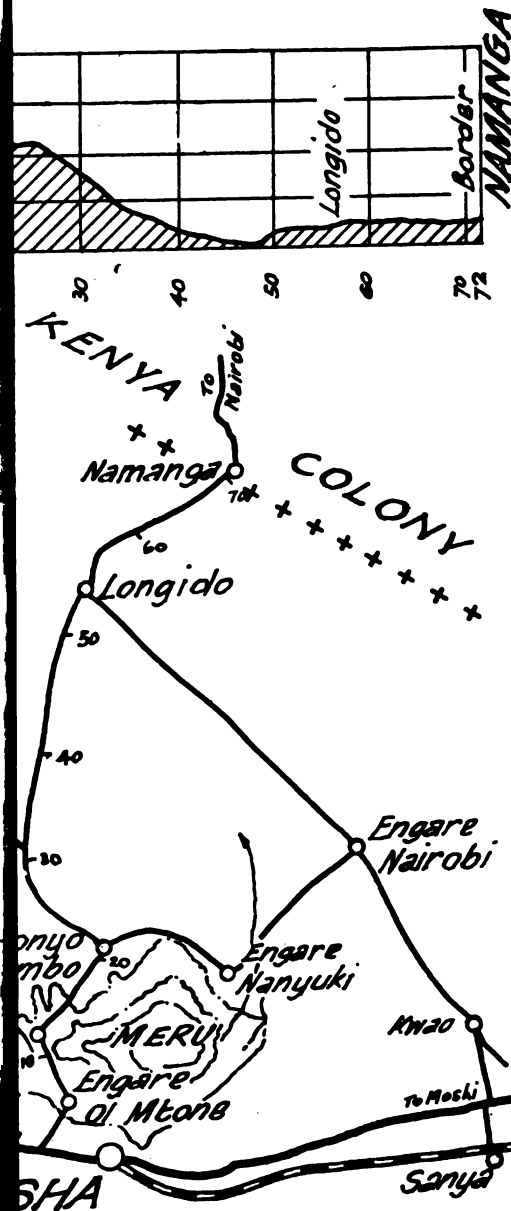
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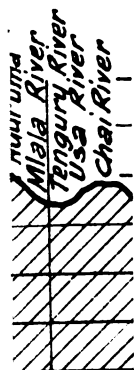


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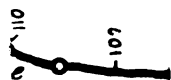


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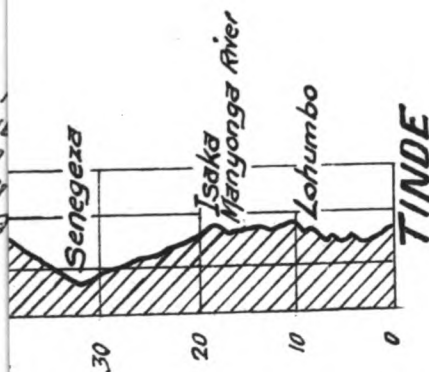
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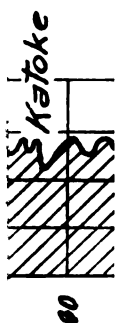
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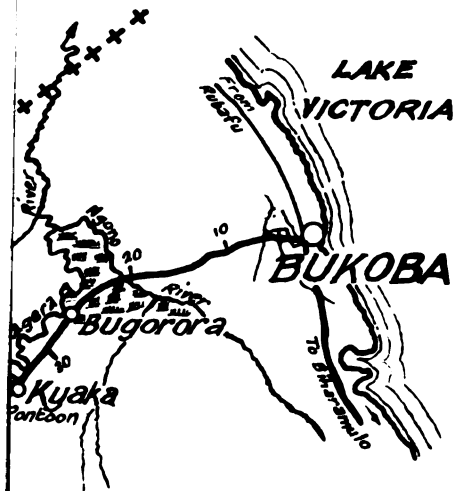
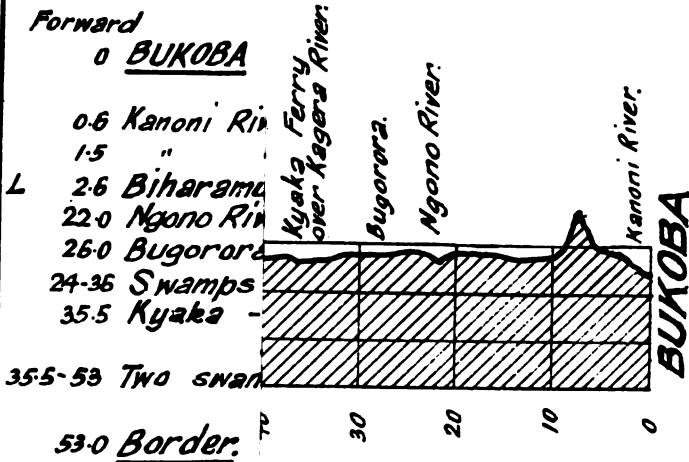
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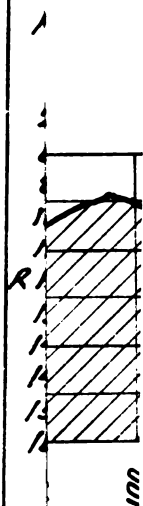
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